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IN THE

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1983

WILLIAM N. JAMES, *et. al.*,

Petitioners,

—against—

TENNESSEE VALLEY AUTHORITY, *et al.*,

Respondents.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE ELEVENTH CIRCUIT

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December 12, 1983

QUESTIONS PRESENTED

This is a class action involving employment discrimination against a class of black employees at TVA's Muscle Shoals, Alabama, facility. At trial, petitioners offered multiple regression analyses showing statistically significant pay rate disparities in favor of whites and, thus, that black professional employees were assigned to lower paid jobs than whites with identical qualifications. The court of appeals held that since those multiple regression analyses failed to "control for differences in job category" they failed to establish a prima facie case of discrimination. Like the petition of the Solicitor General for a writ of certiorari in *Trout v. Lehman*, 702 F.2d 1094 (D.C. Cir.), *petition for cert. filed*, 52 U.S.L.W. 3387 (U.S. Oct. 28, 1983) (No. 83-706), this case raises important questions concerning the use of statistical evidence in employment discrimination cases. The questions presented are:

1. Was it error for the court of appeals, in rejecting the multiple regression analyses, to rely on the extra-record works of three experts in statistics without allowing the parties an opportunity to argue to the court on the proper interpretation of those works, and then, on a petition for rehearing, to refuse to receive, much less consider, the affidavits of those same experts, who pointed out that the court had seriously misunderstood and misapplied their work?

2. Having misunderstood the extra-record works of the three experts, was it error for the court of appeals to reject statistical evidence relating to the class as a whole and to limit evidence of racially biased pay rate disparities only to blacks and whites occupying the same job categories, where that form of analysis would inevitably mask the very discrimination alleged?

PARTIES TO THE PROCEEDINGS

The petitioners are William N. James, Robert H. Nash and Louie J. Sheffield, on behalf of themselves and all members of the certified class, consisting of all past and present black salary employees represented by the Salary Policy Employee Panel of TVA's Muscle Shoals, Alabama, Office of Agricultural and Chemical Development, except Schedule A employees, from January 17, 1973, until the present. The respondents are the Tennessee Valley Authority, S. David Freeman, Richard M. Freeman and Charles H. Dean, Jr.

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PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE ELEVENTH CIRCUIT

Petitioners William N. James, *et al.*, respectfully pray that a writ of certiorari issue to review the judgment and opinion of the United States Court of Appeals for the Eleventh Circuit entered on May 2, 1983, as modified on rehearing on September 12, 1983.

OPINIONS BELOW

The September 12, 1983, opinion of the Eleventh Circuit granting in part and denying in part the petition for rehearing and denying the suggestion for rehearing *en banc* is attached as Appendix A and is reported at 714 F.2d 1066. The July 18, 1983, order of the Eleventh Circuit denying petitioners' motion to supplement the record on appeal is attached as Appendix B and is unreported. The June 27, 1983, order of the Eleventh Circuit striking the affidavits of the experts is attached as Appendix C and is unreported. The May 2, 1983, opinion of the Eleventh Circuit affirming in part and reversing in part is attached as Appendix D and is reported at 704 F.2d 613. The December 15, 1981, opinion of the district court on the class claims is attached as Appendix E and is reported at 528 F. Supp. 862.

JURISDICTIONAL STATEMENT

The opinion and judgment of the Eleventh Circuit were entered on May 2, 1983. A timely petition for rehearing with a suggestion for rehearing *en banc* was filed, and it was granted in part and denied in part on September 12, 1983. The jurisdiction of this Court rests on 28 U.S.C. § 1254(1).

STATUTE INVOLVED

Section 717(a) of Title VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972, 42 U.S.C. § 2000e-16(a), provides in pertinent part:

> "All personnel actions affecting employees or applicants for employment . . . in executive agencies as defined in section 105 of Title 5 (including employees and applicants for employment who are paid from nonappropriated funds), . . . shall be made free from any discrimination based on race, color, religion, sex or national origin."

STATEMENT OF THE CASE

I. The Proceedings Below

This is a class action alleging unlawful and pervasive discrimination by the Tennessee Valley Authority ("TVA") against blacks in promotion, training, assignment and other conditions of employment.[1] The jurisdiction of the United States District Court for the Northern District of Alabama was invoked pursuant to 42 U.S.C. § 2000e-5(f)(3); 42 U.S.C. § 1981; 16 U.S.C. § 831c(b); 28 U.S.C. § 1343(a)(4); 28 U.S.C. § 1361; and 28 U.S.C. § 1331. On December 15, 1981, following a trial on the merits, the district court entered judgment in favor of defendant TVA on all claims.[2] On May 2,

[1] In addition, individual claims of two plaintiffs who the district court held were not proper class representatives, one alleging discrimination in hiring and the other alleging discrimination in training and promotion, were consolidated for trial with the claims of the class and class representatives. Both of those individual plaintiffs were ultimately successful in their individual claims, and they are not petitioners here.

[2] The original complaint was filed on May 21, 1973, by Frank L. Eastland. In addition to his individual allegations of discrimination, Eastland's complaint requested broad injunctive and monetary relief on behalf of a class of employees and applicants for employment at TVA's Muscle Shoals facilities. On October 13, 1973, an amended complaint added eleven plaintiffs and two defendants, the Salary Policy Employee Panel and the Tennessee Valley Trades and Labor Council, neither of which remains a defendant. On December 31, 1974, and June 5, 1975, the district court granted summary judgment against all but one of the named plaintiffs. The district court held that review of the remaining claims would be limited to the administrative record and that, as a matter of law, a class action could not be maintained by federal sector employees. *Eastland v. TVA*, 398 F. Supp. 541 (N.D. Ala. 1974).

On February 28, 1977, the Fifth Circuit reversed in part and affirmed in part. The Fifth Circuit held that three of the named plaintiffs—Messrs. Eastland, James and Sheffield—were entitled to a trial *de novo* on their claims and that they could seek to maintain a class action. *Eastland v. TVA*, 553 F.2d 364 (5th Cir.), *cert. denied*, 434 U.S. 985 (1977).

1983, the Eleventh Circuit affirmed the judgment against the class.[3] Petitioners sought rehearing and rehearing *en banc*. The Eleventh Circuit agreed to modify one footnote of its opinion but otherwise denied the petition for rehearing and suggestion for rehearing *en banc*.

II. Class-Wide Evidence of Discrimination

At trial, petitioners proved discrimination four ways:

(1) they proved that TVA used a highly subjective personnel system giving uncontrolled discretion to a virtually all-white group of managers and proved that the system had in fact been abused by managers to favor the persons they wanted to favor on racial grounds;

(2) they presented the testimony of more than 20 black witnesses as to the discrimination against them;

(3) they presented qualification-by-qualification pay rate analyses showing that blacks with the same education as whites, the same seniority as whites and even the same combination of education and seniority as whites were assigned to lower paying jobs than those same whites; and

(4) they presented multiple regression analyses showing that when all qualifications were considered simultaneously, black race had a substantial and statistically significant negative effect on pay, demonstrating that blacks were assigned to lower paying jobs than whites with identical qualifications.

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[3] The court of appeals reversed the district court's judgment in favor of TVA with respect to the claims of the two individual plaintiffs, see note 1, *supra*, finding that they had in fact been victims of unlawful racial discrimination. The court of appeals affirmed the judgment in favor of TVA, however, with respect to all of the class claims and the individual claims of the other plaintiffs. The court of appeals also affirmed the district court's refusal to certify plaintiff Eastland as a class representative of a class of applicants.

The district court rejected essentially all of that evidence.[4] With respect to the multiple regression analyses, which were at the heart of petitioners' statistical proof at trial and are at the heart of this petition, the district court said only this:

> "Plaintiffs' regression analyses also compare salaries of jobs requiring a wide range of skills, education, training, and experience. Once again, the variables selected by the plaintiffs for the regression analysis failed to adequately reflect job comparability. Plaintiffs' analyses can be given little weight in light of the many important variables excluded. Furthermore, the plaintiffs' data cannot be used to establish a prima facie case of either disparate treatment or disparate impact." Appendix E at E-27.[5]

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[4] With respect to the subjectivity of the personnel system as a factor contributing to discrimination, the court ruled that in order to accept that argument it would have to "establish a presumption that left to their own devices whites will, at least unconsciously, discriminate against blacks", a presumption it was unwilling to establish. Appendix E at E-32. In rejecting the anecdotal evidence of discrimination, the district court found only that "plaintiffs failed to show by testimony at trial or by other evidence presented to the court a single valid claim of any black who should have been promoted and was not". Appendix E at E-18. The district court also rejected the "qualification-by-qualification" statistical analyses, because they did not establish that "blacks in the same kind and level of work were paid any less than whites" (a claim, incidentally, that petitioners never made, since this was not an equal pay case) and because "these comparisons ignored important differences in skills, education, training, and experience". Appendix E at E-27. Despite that finding, however, neither the district court nor TVA ever identified a single qualification that was not later analyzed in petitioner's evidence. None of the factors suggested by TVA ever changed the result of petitioners' showing of discrimination.

[5] Although the trial court held that petitioners had failed to establish a "prima facie" case, it reached this conclusion only after a full trial on the merits. To the extent that respondents' evidence purporting to discredit petitioners' statistical evidence might be characterized as "rebuttal" evidence, *see* Appendix D at D-7, the district court was in error in considering the question of whether a prima facie case was established. Under the rule of *United States Postal Service*

The court of appeals affirmed all of the district court's findings and conclusions with respect to class-wide discrimination.

Most of the court of appeals' opinion was devoted to the multiple regression analyses. Citing an article published by Professor Franklin M. Fisher in 1980, *Multiple Regression in Legal Proceedings*, 80 Colum. L. Rev. 702 (1980), and a supplement to a treatise published by Professors David C. Baldus and James W. L. Cole in 1982, *Statistical Proof of Discrimination* (1980 and 1982 Supp.), the court held that petitioners had not established a sufficient theoretical foundation for their multiple regression model and had failed to "control for job category". Appendix D at D-15 to D-19.[6]

III. The Multiple Regression Analyses

To show that blacks disproportionately occupy lower paying jobs than similarly qualified whites, petitioners offered multiple regression analyses that measured the effect each of several factors had on pay rates of employees similarly situated with respect to the other factors in the analysis. The factors considered were age, length of service, non-technical degree,

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Board of Governors v. Aikens, 103 S.Ct. 1478, 75 L.Ed.2d 403 (1983), the proper inquiry flowing from such a characterization is whether petitioners proved discrimination by a preponderance of the evidence. Whether respondents' evidence is characterized as rebuttal evidence or—as both the district court and the court of appeals treated it—as evidence going to the sufficiency of petitioners' prima facie case, petitioners' argument on the merits leads to the same result. If respondents' statistical evidence is treated as rebuttal evidence, it is unsound, and petitioners have carried their ultimate burden of persuasion under *Aikens*. If respondents' evidence is not treated as rebuttal evidence, it is still inadequate to cast doubt on petitioners' prima facie case, which stands unrebutted and thus of itself satisfied petitioners' ultimate burden of persuasion, *Texas Department of Community Affairs v. Burdine*, 450 U.S. 248, 254 (1981).

[6] As we show below, those two grounds are simply different facets of the same issue. See p. 9, *infra*.

technical degree, and race. An example of the result of that analysis for one of the years, 1975, is as follows:

Variable	Effect on Salary	Statistically Significant
Each year of age	$ 167	Yes
Each year of service	+ 169	Yes
Non-Technical Degree	+ 5,446	Yes
Technical Degree	+11,014	Yes
Race, Black	− 3,838	Yes

Thus, with all of these qualifications held constant, one can predict at a statistically significant level that a black employee with any combination of those qualifications would be assigned to a job at TVA paying $3,838 less than a white employee with the same combination of qualifications.

TVA criticized that analysis on three grounds. It argued that petitioners used the wrong factors, that the inclusion of the F (lowest paid) and M (highest paid) schedules might have distorted the results and that it was improper to do a single multiple regression analysis for the entire class—that instead petitioners should have run separate regressions for each of the five job categories in issue (*i.e.*, "controlled for job category").

TVA's expert, a psychologist, then performed his own multiple regression analyses, one for each job category, testing for the effects of a different set of factors. He admitted that even his own analysis showed a statistically significant race effect on at least one schedule, E, which was one of two schedules at the heart of petitioners' discrimination claim.[7] In

[7] Schedule E consists primarily of laboratory aides, many of whom have college degrees in the sciences. TVA's analysis of Schedule E showed that TVA had assigned blacks to jobs paying $2,254 less than comparably qualified whites. The other schedule of greatest concern to petitioners was Schedule D, consisting primarily of laboratory analysts, most of whom have science degrees. At the class certification stage of the case, TVA argued for a class consisting only of Schedules D and E, and TVA performed a regression analysis on

addition, he was unable to do a regression analysis for another job schedule, A, since TVA had never had a black employee on it. For the other schedules, B and F (a schedule consisting almost entirely of blacks), he found no significant race effect in favor of whites.

In rebuttal, petitioners prepared new multiple regression analyses in order to meet TVA's hypothetical challenges. First, petitioners used TVA's suggested variables, and the results continued to show significant pay rate disparities in favor of whites when the class as a whole was considered. An example of this result for 1979 appears as follows:

Variable	Effect on Salary	Statistically Significant
Each year of service	$ 271.35	yes
Each year of education	+ 756.41	yes
Each year of age	+ 177.27	yes
Physical science degree	+7,348.44	yes
Natural science degree	+6,931.64	yes
Ph.D in any field or bachelor's degree in chemical engineering	+7,361.32	yes
Engineering science degree	+4,925.74	yes
Social science degree	+2,784.68	yes
Race, black	-3,019.50	yes

Petitioners then excluded, in turn, the F schedule and the M schedule, and each time the results were the same—statistically significant disparities in favor of whites.

The court of appeals did not question the factors tested by petitioners either in their own analyses or in the rebuttal analyses. Rather, it held that petitioners should have established a "theoretical foundation" for their multiple regression

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those two schedules together. If proper statistical methods are used, see Appendix F ¶ 18, TVA's own analysis establishes that black race had a statistically significant effect on pay rates in the two schedules combined (.0453 probability of finding the observed race effect by chance, with .05 being statistically significant), as well as in Schedule E alone (.0273 probability).

analyses and should have "controlled for job category". Citing and quoting from the work by Professors Baldus and Cole, the court said that "a regression should account for the 'interaction' between the kind of job and the other variables". Specifically, the court observed that, for example, "length of service" may have a greater effect on salary in some schedules than in others. Appendix D at D-17 to D-18. As a result, the court concluded:

> "Given the weakness of the theoretical foundation and the failure to control for job category, the district court did not err in determining that Eastland's regressions were insufficient to establish a prima facie case." Appendix D at D-19.[8]

The two bases on which the court of appeals relied in rejecting petitioners' multiple regression analyses—the supposed lack of a "theoretical foundation" and the failure to control for job category—are in fact one and the same. Since petitioners' rebuttal analyses considered all factors suggested by respondents, they differed from respondents' analyses only in their "failure to control for job category", and any alleged flaw in the theoretical foundation for petitioners' statistical model must reside in that difference. *See* Appendix D at D-17. Consequently, the court's rejection of petitioners' evidence rests entirely on its understanding of statistical science as gleaned from the works of Professors Fisher, Baldus and Cole.

IV. **The Petition for Rehearing**

Petitioners sought a rehearing and a rehearing *en banc* and, in support of their petition, submitted the affidavits of the same three experts relied on by the court, Professors Fisher, Baldus and Cole, as well as the affidavit of Professor Michael O.

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[8] Since a full plenary trial was held, the court's emphasis on whether petitioners had established a prima facie case is subject to the same possible objection as the district court's similar analysis. If this was error, however, it should have no effect on the proper resolution of this case, since petitioners' evidence both establishes a prima facie case and proves discrimination by a preponderance of the evidence. See note 5, *supra*.

Finkelstein (the author of a companion work to Professor Fisher's [9]) and Professor Bruce Levin, a colleague of Professor Finkelstein. (Copies of these affidavits are attached to this petition as Appendices F, G and H, respectively.) Each of those experts concluded that the court of appeals had made a serious analytical error that affected the outcome of the case. Their affidavits establish three central points:

> —It is statistically unsound, as the court of appeals required, to test for discrimination in job assignment and promotion by multiple regressions that "control for job category", since such a control would mask the discrimination alleged, particularly where, as here, it would result in extremely small sample sizes.
>
> —Even if it were correct to do so as a theoretical matter, it was unnecessary to do so here, since TVA's own regression analyses demonstrate the error of the court's hypothesis that the effect of length of service on pay rate might be different for the different job schedules.[10]
>
> —The record clearly shows that even when separate job categories are considered, race continues to have a significant effect on Schedules D and E.[11]

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[9] Finkelstein, *The Judicial Reception of Multiple Regression Studies in Race and Sex Discrimination Cases*, 80 Colum. L. Rev. 737 (1980).

[10] TVA's regression analyses showed the following effects of length of service on salary for each job schedule: A—unknown; B—$220.01; D—$227.82; E—$174.72; F—unknown; M—$212.99. (Defendants' Exhibit ("DX") 201.) These figures clearly belie the court's objection to petitioners' methodology.

[11] "[B]lack race is such a significant negative factor affecting job placement among equally qualified black and white employees on Schedules, D and E, that TVA's own results in DX201—showing that blacks on Schedule D earn $1,220, and blacks on Schedule E earn $2,250, less than their similarly qualified white counterparts—could have occurred by chance only 22 times in every 10,000 cases." Appendix F ¶ 19.

Approximately a month later, the court of appeals, *sua sponte*, struck the affidavits:

> "The Appellants have filed a petition for rehearing and suggestion for rehearing en banc and, in support, without leave of court have attached affidavits of statistical experts who disagree with various parts of the court's opinion. The court will not consider these ex parte, post-decision statements. The court sua sponte ORDERS that they are stricken from the petition, and no opposing affidavits need be filed." Appendix C.

Immediately thereafter, petitioners moved for leave to supplement the record on appeal with the stricken affidavits, but that motion was denied. When the court of appeals ruled on the merits of the petition for rehearing, it modified one footnote in response to a suggestion by the amicus NAACP Legal Defense and Educational Fund, Inc. and denied the rest of the petition without comment.[12]

> "[T]hese observations taken together suggest that the results of the defendants' separate analyses of Schedules D and E tend to support conclusions not substantially different from those drawn from the plaintiffs' analysis of the pooled schedules, at least to the degree that the pooled analysis indicates the presence of disparate treatment in Schedules D and E." Appendix G ¶ 21.
>
> "[W]e must reject the hypothesis that race was not an influence on salary in either schedule." Appendix H ¶ 10; see also ¶ 12.

[12] The court modified its rationale for affirming the district court's exclusion of initial assignment claims from the class action. As modified, the court's opinion held that initial assignment claims should not be considered because they were not "like or related to" the claims made in the administrative complaints of the class representatives. The court noted that none of the class representatives could have raised an initial assignment claim because all were hired before Title VII became applicable to the federal government, and that from the record, it did not appear that the TVA had considered discrimination in initial assignments in investigating the claims of the class representatives. The court of appeals' rejection of initial assignment claims was wrong for several reasons.

REASONS FOR GRANTING THE WRIT

I. The Court Should Grant the Writ to Correct a Grave Procedural Irregularity that Deprived Petitioners of their Due Process Rights

The court of appeals' misplaced reliance on material outside the record, coupled with its refusal to allow the parties an opportunity to correct the error, constituted a grave procedural irregularity with far-reaching implications for employment discrimination cases and other cases as well. By refusing even to receive, much less consider, the affidavits of the very experts on whom it relied in its erroneous statistical analysis, the court of appeals has deprived petitioners of their fundamental rights to due process.

First, the court of appeals committed plain and dispositive error by relying on material not considered by the trial court.

First, the district court had rejected the initial assignment claims for a reason entirely different from that of the court of appeals—on the ground that they were "applicant", rather than "employee", claims. The court of appeals essentially made an independent finding of fact unrelated to any findings of the district court.

Second, the court of appeals misapplied the "like or related" test. As the court of appeals stated the test, it encompasses "'the "scope" of the EEOC investigation which *can reasonably be expected* to grow out of the charge of discrimination.'" Appendix A at A-2 (quoting *Sanchez v. Standard Brands, Inc.*, 431 F.2d 455 (5th Cir. 1970)) (emphasis added). It is irrelevant to the application of this test that the TVA may not have investigated discrimination in initial assignments—may not, in other words, have done all it could "reasonably be expected" to do.

Finally, the court of appeals noted that pervasiveness of a discriminatory practice may support a broader application of the "like or related" rule. Accordingly, if this Court should reverse the court of appeals' rejection of petitioners' statistical evidence, finding, in effect, that discrimination pervasive enough to warrant judgment for the class existed or may have existed, the court of appeals should at least be required to reconsider whether a broader application of the "like or related" rule is appropriate in this case.

Turtle Mountain Band of Chippewa Indians v. United States, 490 F.2d 935, 945 (Ct. Cl. 1974). More fundamentally, whether at trial or on appeal, courts may take judicial notice only of facts that are not reasonably subject to dispute. *Citizens for a Better Environment v. United States EPA,* 649 F.2d 522, 526 n.6 (7th Cir. 1981); *United States v. Greschner,* 647 F.2d 740, 742 n.2 (7th Cir. 1981); *United States v. De Rose Industries, Inc.,* 519 F.2d 1066, 1068 (5th Cir. 1975); *Application of Eynde,* 480 F.2d 1364, 1370 (C.C.P.A. 1973). Accordingly, both the Federal Rules of Evidence and the Due Process Clause require that a court taking judicial notice of a fact give the parties an opportunity to refute it. Fed. R. Evid. 201(e); *Ohio Bell Telephone Co. v. Public Utilities Commission of Ohio,* 301 U.S. 292 (1937); *Conway v. Chemical Leaman Tank Lines, Inc.,* 610 F.2d 360, 365 n.5 (5th Cir. 1980).[13] In the present case, this right was not an empty formality but a critical necessity determining the outcome. Because of its unguided inference from extra-record expert evidence, the court of appeals judicially noticed not a fact but an error, and as the affidavits of Professors Baldus, Cole, Fisher, Finkelstein and Levin establish, petitioners—if given an opportunity to be heard—could have prevented the error. Petitioners sought such an opportunity to be heard, but were turned away.

As the use of statistical evidence in employment discrimination cases increases, the use—and misunderstanding—by courts of expert treatises without illumination by the parties will pose grave dangers to the ability of litigants to ensure that their evidence is given proper weight—or is even understood—by the courts. Quite apart from employment discrimination cases, litigation raising complex technical, mathematical and statistical issues is now a commonplace in the federal courts. A precedent authorizing courts to go outside the record, to misconstrue the extra-record materials relied on and then to refuse correction from the authors of those very materials poses the danger of generating many more plainly incorrect decisions.

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[13] *Cf.* Fed. R. Evid. 706(a) (expert appointed by court subject to cross-examination by each party).

We do not contend that courts of appeals should be quick to permit appellants to supplement the record on appeal with affidavits such as the ones we offered. We fully recognize that it is highly unusual even to seek to supplement the record on appeal. But where the court of appeals has itself gone outside the record to find expert opinion on which to rely, especially when its misreading of that opinion is dispositive, it is fundamentally unfair and improper for the court not to permit the aggrieved party to submit sworn statements of those very same experts in order to show that the court misunderstood them in the first place.

It may be that the court was concerned about the procedural propriety of inducing a battle of affidavits on appeal, but in that case there was a simple remedy. The court could have, as petitioners suggested, remanded the case to the district court for the taking of additional evidence and for additional findings of fact. Inexplicably, it refused to do so.

II. The Court Should Grant the Writ to Correct a Serious Error in the Use of Statistical Evidence in an Employment Discrimination Case, to Provide Guidance to the Lower Courts and to Resolve a Conflict Between the Circuits.

The grave procedural irregularity committed by the court of appeals led it into a serious and outcome-determinative error on the merits, which of itself warrants granting the writ.

Statistics generally, and multiple regression analyses in particular, are an important—probably indispensable—evidentiary tool for Title VII litigants. *See* B. Schlei & P. Grossman, *Employment Discrimination Law* 1342-43 & n.179 (2d ed. 1983). Yet they have generated substantial confusion in the lower courts—of which the plain error of the court of appeals in the present case is but one compelling example. The question of when statistical evidence must account for differences in job categories is of particular importance, having arisen in an increasingly large number of cases in recent years. *See,*

e.g., EEOC v. Federal Reserve Bank of Richmond, 698 F.2d 633, 655-57 (4th Cir. 1982), *cert. granted sub nom. Cooper v. Federal Reserve Bank of Ri hmond,* 52 U.S.L.W. 3342 (U.S. Oct. 31, 1983) (No. 83-185); *James v. Stockham Valves & Fittings Co.,* 559 F.2d 310, 331-32 (5th Cir. 1977), *cert. denied,* 434 U.S. 1034 (1978); *Sobel v. Yeshiva University,* 566 F. Supp. 1166, 1178-80 (S.D.N.Y. 1983); *Carroll v. Sears, Roebuck & Co.,* 514 F. Supp. 788, 816 (W.D. La. 1981), *rev'd in part and aff'd in part,* 708 F.2d 183 (5th Cir. 1983). The guidance of this Court is badly needed by the lower courts.

Currently before this Court is the petition of the Solicitor General of the United States for a writ of certiorari in *Trout v. Lehman,* 702 F.2d 1094 (D.C. Cir. 1983), *petition for cert. filed,* 52 U.S.L.W. 3387 (U.S. Oct. 28, 1983) (No. 83-706). The Solicitor General's petition asks this Court to review a decision that the inclusion in multiple regression analyses of nonactionable pre-1972 federal government personnel decisions does not render the analyses inadequate to prove actionable employment discrimination. Although the question in *Trout* is not identical to that presented here, the two are very closely related: Both concern the standards a multiple regression analysis must meet to qualify as evidence of employment discrimination. If this Court should choose to review the decision of the D.C. Circuit in No. 83-706, to evaluate the probative value of a tainted regression analysis, it should at the same time consider the present case, involving untainted and highly probative statistical analyses that were rejected below on the basis of unnecessary and meaningless requirements.

Regardless of the *Trout* case, the writ should issue in the present case to correct the plain error and injustice of the decisions below, which conflict with well reasoned authority in another Circuit. The court of appeals was wrong on the merits, and its error is outcome determinative. The works in question do *not* lead to the conclusion that the court of appeals drew from them; properly understood, they lead to the *opposite* conclusion. No other court of which we are aware has made

the same error[14], but in the light of the opinion below from a respected court that handles a great number of Title VII cases, there is a danger that others now will. And because the error is such a fundamental one, affecting the use of multiple regression analysis in every single employment discrimination case in which more than one type of job is in issue, there is a serious risk that large numbers of meritorious cases will be jeopardized because of the court's opinion. (For the twelve months ending on June 30, 1983, 9,097 new employment discrimination cases were filed in the district courts. During the same twelve months, 1,418 employment discrimination cases were appealed to the courts of appeals. *Annual Report of the Director, Administrative Office of the United States Courts,* Appendix I, pp. A-4, A-20 (1983).)

In view of the nature of the error below, it is not surprising that it conflicts with the rule in the Fifth Circuit. In *James v. Stockham Valves & Fittings Co., supra,* the Fifth Circuit held it was error, in an employment discrimination case involving discrimination in promotion, to give weight to a regression analysis that controlled for job class. The defendant's regression analysis in *Stockham Valves* had treated "skill level"

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[14] The court of appeals stated that one other case, *Valentino v. United States Postal Service,* 674 F.2d 56 (D.C. Cir. 1982), reached a similar conclusion. But that is incorrect. *Valentino* holds that where a class definition includes widely disparate jobs, the regression model must include sufficiently detailed variables to account for the different minimum objective job qualifications required for the various jobs. *Id.* at 61, 70-71. *See Trout v. Lehman, supra. Valentino* does not require class plaintiffs to perform separate regressions for each job category within the class. *See Trout v. Hidalgo,* 517 F. Supp. 873, 883 (D.D.C. 1981), *aff'd in relevant part sub nom. Trout v. Lehman,* 702 F.2d 1094 (D.C. Cir.), *petition for cert. filed,* 52 U.S.L.W. 3387 (U.S. Oct. 28, 1983) (No. 83-706). Here, petitioners' variables did in fact account for all of the minimum objective job qualifications identified by TVA or any of its witnesses.

—derived solely from the employee's job class—as a variable.[15] The court of appeals said:

> " 'Skill level' was derived from an employee's job class; he had 'skill' only if he worked in a job with a rating between JC 10 and 13. The systematic exclusion of blacks from promotion and training opportunities for such jobs, as is alleged here, will automatically produce no black employees with 'skill level'. A regression analysis defining 'skill level' in that way thus may confirm the existence of employment discrimination practices that result in higher earnings for whites." 559 F.2d at 332. *See also Carroll, supra,* 514 F. Supp. at 816; *Vuyanich v. Republic National Bank of Dallas,* 505 F. Supp. 224, 305 n.95 (N.D. Tex. 1980), *mod. in part, reh. denied, en banc,* 521 F. Supp. 656 (N.D. Tex. 1981).

A hypothetical example may illustrate the correctness of the Fifth Circuit rule and the error of the court of appeals in this case: Assume that a black with a degree in chemistry is hired on the E schedule as an aide, a position that does not require a degree in chemistry and in which no white person with a degree in chemistry is employed. Because of his race, and despite his credentials and strong performance in his job, he is repeatedly denied promotion to the D schedule, the schedule in which similarly qualified whites are employed, and remains in the E

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[15] The statistical methodology rejected by the Fifth Circuit in *Stockham Valves* differs, technically, from that required by the Eleventh Circuit in the present case, but both are infected with the same infirmity. In the present case respondents urge that petitioners must control for job category by performing separate regression analyses for each job category, while in *Stockham Valves,* the defendant included job category as a variable in its one regression analysis. Both are methods of "controlling" for job category, *see Vuyanich v. Republic National Bank of Dallas,* 505 F. Supp. 224, 305 n.95 (N.D. Tex. 1980), *mod. in part, reh. denied, en banc,* 521 F. Supp. 656 (N.D. Tex. 1981), and in a case involving discrimination in assignments and promotions, both have the same unacceptable effect: allowing the defendant to remove from the evidence before the court precisely the effect to be measured.

schedule for more than 10 years. Although he may be paid as well as others in the E schedule, he does not belong there, and he is in fact paid less than comparably qualified whites. A regression analysis that controlled for job category would not show any pay rate disparity based on race. It would show only that he is paid as well as other aides, masking the very discrimination he has suffered.[16] The Fifth Circuit understands the vice in controlling for job category in cases involving assignments and promotions. The court of appeals in the present case clearly did not.

Title VII cases are enormously expensive for the litigants (most of whom cannot alone bear the expense) and time consuming for the courts. As the conflict between the Fifth and Eleventh Circuits here demonstrates, there is confusion among the lower courts—and among litigants as well—as to what types of evidentiary showings are sufficient to establish discrimination. If they are entitled to nothing else, the litigants are entitled to predictability. That, unfortunately, they do not have today. Rather, they are repeatedly being faced with changing standards of proof, changes, such as those here, that often make little apparent sense. Clear direction from this Court is needed, now more than ever. Without such direction, there is a clear danger that private enforcement of Title VII will substantially diminish, that private attorneys general (who now account for more than 98% of all new employment discrimination cases[17]) will find it impossible to continue to bear the heavy costs of making the required statistical showings without knowing in advance how those showings should be structured so as to succeed.

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[16] This example is not wholly hypothetical. It closely parallels the career of petitioner Sheffield.

[17] Of the 9,097 new employment discrimination cases filed in the district courts during the 12 months ending on June 30, 1983, only 170 were instituted by the government. Of the 1,418 employment discrimination cases appealed to the courts of appeals during the same period, only 51 involved appeals by the Government. *Annual Report of the Director, Administrative Office of the United States Courts*, Appendix I, pp. A-4, A-20 (1983).

CONCLUSION

In view of the foregoing, a writ of certiorari should issue to the United States Court of Appeals for the Eleventh Circuit, so that this Court may resolve the important issues raised in this petition.

December 12, 1983.

Respectfully submitted,

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APPENDIX A

OPINION OF THE COURT OF APPEALS GRANTING IN PART AND DENYING IN PART PETITION FOR REHEARING AND DENYING SUGGESTION FOR REHEARING EN BANC

REPORTED AT 714 F.2d 1066 (11th Cir. 1983)

APPENDIX A

UNITED STATES COURT OF APPEALS
FOR THE ELEVENTH CIRCUIT

FRANK L. EASTLAND, Individually, *et al.*,
Plaintiffs-Appellants,

—against—

TENNESSEE VALLEY AUTHORITY, *et al.*,
Defendants-Appellees.

No. 82-7008
Sept. 12, 1983

Appeals from the United States District Court for the Northern District of Alabama,

ON PETITION FOR REHEARING AND SUGGESTION FOR REHEARING EN BANC

(Opinion May 2, 1983, 11 Cir., 1983, 704 F.2d 613).

Before GODBOLD, Chief Judge, FAY and SMITH*, Circuit Judges.

PER CURIAM:

The amicus brief filed by the NAACP Legal Defense and Educational Fund, Inc., in support of the petition for rehearing/rehearing en banc questions the correctness of footnote 9 of our opinion, 704 F.2d at 620.

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* Honorable Edward S. Smith, U.S. Circuit Judge for the Federal Circuit, sitting by designation.

Footnote 9 is withdrawn and the following is substituted for it:

> [9] The district court refused to consider the initial assignment claims because they were "applicant claims" excluded by the Fifth Circuit's opinion in *Eastland I*, 553 F.2d 364. *Eastland I* held that "a class action may only be maintained if the requirements of Rule 23 . . . can be complied with, and the only issues that may be raised are those issues that were raised by the representative parties in their administrative complaints, together with those issues that may reasonably be expected to grow out of the administrative investigation of their claims." *Id.* at 372. Eastland argues that initial assignment claims were implicit in the administrative complaints of both Nash and Sheffield and therefore the issue was properly before the court.

The starting point for determining the permissible scope of the judicial complaint is the EEOC charge and investigation. *Evans v. U.S. Pipe & Foundry Co.*, 696 F.2d 925, 927 (Cir. 1983). In *Sanchez v. Standard Brands, Inc.*, 431 F.2d 455 (5th Cir. 1970), the Fifth Circuit held "the allegations in a judicial complaint filed pursuant to Title VII 'may encompass any kind of discrimination *like or related* to the allegations contained in the charge and growing out of such allegation during the pendency of the case before the Commission.'" *Id.* at 466 (quoting *King v. Georgia Power Co.*, 295 F. Supp. 943, 947 (N.D. Ga. 1968) (emphasis added)). Under the "like or related" rule "the 'scope' of the judicial complaint is limited to the 'scope' of the EEOC investigation which can reasonably be expected to grow out of the charge of discrimination". *Id.*

In the instant case none of the class representatives raised an initial assignment claim in his administrative complaint. The class representatives were not in a position to raise such claims because all received their initial assignments years before Title VII was made applicable to TVA. Our review of the record reveals no indication that the administrative investigations considered either discrimination in initial assignments or the contention that

widespread discrimination resulted from TVA's general policy of delegating excessive subjective discretion to its supervisory staff.

The "like or related" rule has been subject to varied interpretations. *See Evans*, 696 F.2d 928-29. Although the pervasiveness of a discriminatory practice or other compelling circumstances may support a broader application of the rule, on the facts of this case the district court's refusal to consider the initial assignment claims was not error.

In all other respects, the petition for rehearing is DENIED.

No member of this panel nor judge in regular active service on the court having requested that the court be polled on rehearing en banc (Rule 35, Federal Rules of Appellate Procedure; Eleventh Circuit Rule 26), the suggestion for rehearing en banc is DENIED.

APPENDIX B

ORDER OF THE COURT OF APPEALS DENYING MOTION FOR LEAVE TO SUPPLEMENT THE RECORD ON APPEAL

APPENDIX B

IN THE UNITED STATES COURT OF APPEALS
FOR THE ELEVENTH CIRCUIT

FRANK L. EASTLAND, individually, *et al.*,
Plaintiffs-Appellants,

—against—

TENNESSEE VALLEY AUTHORITY, *et al.*,
Defendants-Appellees.

No. 82-7008
July 18, 1983

On Appeal from the United States District Court for the Northern District of Alabama

Before GODBOLD, Chief Judge, FAY and SMITH*, Circuit Judges.

GODBOLD, Chief Judge:

IT IS ORDERED that the motion of appellants for leave to supplement his petition for rehearing and suggestion for rehearing en banc with attached affidavits of statistical experts is DENIED.

/s/ JOHN C. GODBOLD
Chief Judge

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* Hon. Edward S. Smith, U.S. Circuit Judge for the Federal Circuit, sitting by designation.

APPENDIX C

ORDER OF THE COURT OF APPEALS STRIKING AFFIDAVITS FROM PETITION FOR REHEARING

APPENDIX C

IN THE UNITED STATES COURT OF APPEALS
FOR THE ELEVENTH CIRCUIT

FRANK L. EASTLAND, Individually, *et al.*,
Plaintiffs-Appellants,

—against—

TENNESSEE VALLEY AUTHORITY, *et al.*,
Defendants-Appellees.

No. 82-7008
July 27, 1983

On Appeal from the United States District Court for the Northern District of Alabama

ON PETITION FOR REHEARING AND SUGGESTION FOR REHEARING EN BANC

Before GODBOLD, Chief Judge, FAY and SMITH*, Circuit Judges.

GODBOLD, Chief Judge:

BY THE COURT:

The appellants have filed a petition for rehearing and suggestion for rehearing en banc and, in support, without leave of court have attached affidavits of statistical experts who disagree with various parts of the court's opinion. The court will not consider these ex parte, post-decision statements. The court sua sponte ORDERS that they are stricken from the petition, and no opposing affidavits need be filed.

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* Hon. Edward S. Smith, Judge for the U.S. Court of Appeals for the Federal Circuit, sitting by designation.

APPENDIX D

OPINION OF THE COURT OF APPEALS

REPORTED AT 704 F.2d 613 (11th Cir. 1983)

APPENDIX D

UNITED STATES COURT OF APPEALS,
FOR THE ELEVENTH CIRCUIT

FRANK L. EASTLAND, Individually, *et al.*,
Plaintiffs-Appellants

v.

TENNESSEE VALLEY AUTHORITY, *et al.*,
Defendants-Appellees.

No. 82-7008
May 2, 1983
Appeals from the United States District Court for the Northern District of Alabama.

Before GODBOLD, Chief Judge, FAY and SMITH*, Circuit Judges.

GODBOLD, Chief Judge:

Plaintiffs brought this action under Title VII of the Civil Rights Act of 1964, 42 U.S.C. Sec. 2000e *et seq.*, alleging that the Tennessee Valley Authority (TVA) engaged in racially discriminatory employment practices. The original complaint was filed in 1973 by Frank L. Eastland. The district court granted summary judgment against all but two of the plaintiffs. On appeal the Fifth Circuit reversed in part, affirmed in part and remanded the case for further proceedings. The history of these earlier proceedings is set forth in *Eastland v. Tennessee Valley Authority*, 398 F. Supp. 541 (N.D. Ala. 1974), *rev'd in part, aff'd in part*, 553 F.2d 364 (5th Cir. 1977), *cert. denied*, 434 U.S. 985, 98 S.Ct. 611, 54 L. Ed. 2d 479 (1977) (*Eastland I*).

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* Honorable Edward S. Smith, U.S. Circuit Judge for the Federal Circuit, sitting by designation.

On remand the district court certified James, Nash and Sheffield as representatives of a class consisting of past and present black employees represented by the Salary Policy Employee Panel of TVA's Office of Agricultural and Chemical Development (OACD). Subsequently the individual claims of Eastland[1] and Long were consolidated for trial with the claims of the class and the class representatives.

The non-jury trial was bifurcated under Rule 42(b), Fed. R. Civ. P. Stage I was limited to liability and injunctive relief. Trial of this stage lasted seven weeks; 45 witnesses testified and 790 exhibits were received. The district court held in favor of TVA on all claims and thus never reached the damage stage. We affirm the judgment as to the class claims and the individual claims of the class representatives. We reverse as to Eastland and Long.

I. Class Claims

TVA is a wholly owned government corporation that provides electricity to the Tennessee Valley region and develops agricultural fertilizers among other projects. OACD is a division of TVA involved in fertilizer research and production.[2]

As originally certified the plaintiff class includes

> all past and present black salary policy employees represented by the Salary Policy Employee Panel of Tennessee Valley Authority's Muscle Shoals, Alabama, Office of the Agricultural and Chemical Development, from January 17, 1973, until the present.

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[1] Eastland is also a member of the class.

[2] Defendants initially included: (1) members of TVA Board of Directors, S. David Freeman, Richard M. Freeman and N. Robert Clement; (2) the Salary Policy Employee Panel; and (3) Tennessee Valley Trades and Labor Council. The Trades and Labor Council, which represents essentially blue collar workers, did not actively participate in the litigation following entry of the class certification order. At trial the court dismissed Eastland's and Long's individual claims against the Salary Policy Employee Panel. The parties later agreed to dismiss all claims against the Panel with the stipulation that the Panel be bound by the decision on the merits.

The Salary Policy Employee Panel represents white collar employees not in management positions. The positions represented by the panel are classified into the following salary schedules.

SA—administrative
SB—clerical
SD—engineering and scientific
SE—aides and technicians
SF—custodial.[3]

Each job is given a level or grade within the particular schedule. There are also "steps" within each grade. Higher grades and higher steps within grades have correspondingly higher pay.

The plaintiff class (hereinafter referred to as Eastland) alleges that TVA unlawfully discriminates against black employees in promotion, job assignment, transfer, training and other conditions of employment. The controversy centers around the operation and effect of TVA's personnel system. Eastland contends that this system delegates "extensive subjective discretion" to a predominately white supervisory force and that blacks have suffered as a result.

The personnel practices and policies attacked by Eastland include: (1) the written job descriptions;[4] (2) the system for classifying jobs at a particular grade;[5] (3) lack of a formal

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[3] Employees in management positions are classified on the M Schedule. Public safety employees are classified on the G Schedule. The employees on these schedules are not members of the class.

[4] The "keystone" of TVA's personnel system is the written job description. The description forms the basis for classification of a job at a certain schedule and grade. A supervisor customarily writes the job description.

[5] When this litigation was begun TVA used the "classification standard" system for evaluating job descriptions. Under this system the division personnel officer would compare an individual's job description to standards set out in the classification standards manual and determine the grade at which the job should be classified. An employee not satisfied with his evaluation could request review by TVA's Division of Personnel or pursue a grievance or EEO claim.

Around 1975 TVA began the transition to the "factor format" system for evaluating job descriptions. Under this system the division personnel officer evaluates a job description by assigning quantative [*sic*] values to job "factors". The values are set out in guide charts. The job evaluation is then sent to a union reviewer. If the reviewer disagrees the matter may be appealed. A dissatisfied employee may also pursue a grievance or EEO claim.

training program; (4) employee service reviews; and (5) promotion and reclassification procedures.[6]

Eastland's case included both statistical and anecdotal evidence. The district court determined that the quality of both modes of proof was insufficient to establish a prima facie case. We agree.

On appeal Eastland raises a myriad of objections. Because "it is neither practicable nor useful to write appellate opinions dealing in detail with every facet of each case[,]" *Ste. Marie v. Eastern Railroad Ass'n,* 650 F.2d 395, 397 (2d Cir. 1981), we confine to our discussion to issues whose resolution is necessary to our decision.

A. Class Certification

The original complaint was filed on behalf of a class consisting of

> all past, present, and future black employees and applicants for employment in TVA's Muscle Shoals, Alabama area operations and facilities, and all black persons who would apply or would have applied for employment in said operations but for the defendant's racially discriminatory recruitment and employment practices or reputation therefor.

The district court initially certified a class consisting of all past and present black employees represented by the Salary Policy Panel at OACD. Following the trial, the court further limited the scope of the class by decertifying the Administrative or SA schedule.

There are key differences between the class as alleged and the class as ultimately certified. The certified class excludes all

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[6] An employee may progress to a higher level job by promotion or reclassification. A promotion occurs when an established vacancy is filled with an internal candidate. A reclassification occurs when an employee classified at one level is moved to a higher level because he is already performing the duties and responsibilities of the higher level. Within OACD reclassification accounts for over 80% of employees' advancements to higher level jobs.

managerial employees and all employees represented by the Tennessee Valley Trades and Labor Council. It also excludes applicants and those denied employment or deterred from seeking employment because of TVA's discriminatory practices or reputation.

Eastland argues that the district court abused its discretion in narrowing the class. "[S]uits alleging racial or ethnic discrimination are often by their very nature class suits, involving classwide wrongs." *East Texas Motor Freight System, Inc. v. Rodriguez,* 431 U.S. 395, 405, 97 S.Ct. 1891, 1897, 52 L. Ed. 2d 453 (1977). Eastland emphasizes that the requirements of Fed. R. Civ. Proc. 23 have been met and that under the "across-the-board" approach to Title VII, parties have been permitted to represent those who "suffe[r] from different practices motivated by the same policies". *Payne v. Travenol Laboratories, Inc.,* 565 F.2d 895, 900 (5th Cir.), *cert. denied,* 439 U.S. 835, 99 S.Ct. 118, 58 L. Ed. 2d 131 (1978) (citations omitted).

These arguments are unpersuasive. The Supreme Court recently has reiterated the importance of careful attention to the requirements of Rule 23[7] and cautioned against the overzealous application of the "across-the-board" approach. *General Telephone Co. v. Falcon,* 457 U.S. 147 157-160, 102 S.Ct. 2364, 2370-72, 72 L. Ed. 2d 740, 749-52 (1982). "The mere fact that a complaint alleges racial or ethnic discrimination does not in itself ensure that the party who has brought the lawsuit will be an adequate representative of those who may have been the real victims of that discrimination." *Id.* 457 U.S. at 157, 102 S.Ct. at 2370, 72 L. Ed. 2d at 750 (quoting *Rodriguez,* 431 U.S. at 405-06, 97 S.Ct. at 1897-98).

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[7] Fed. R. Civ. P. 23 provides in part:

(a) Prerequisites to a Class Action. One or more members of a class may sue or be sued as representative parties on behalf of all only if (1) the class is so numerous that joinder of all members is impracticable, (2) there are questions of law or fact common to the class, (3) the claims or defenses of the representative parties are typical of the claims or defenses of the class, and (4) the representative parties will fairly and adequately protect the interests of the class.

The district court limited the scope of the class based on a determination that the representatives parties lacked sufficient nexus with the putative class members to adequately protect their interests. The determination that a party would adequately protect the interests of a class is factual and depends on the circumstances of each case. *Guerine v. J & W Investment, Inc.*, 544 F.2d 863, 864-65 (5th Cir. 1977). Given the character of the employees' claim and the nature of the evidence required to substantiate it, we find that the district court did not abuse its discretion in narrowing the class.

B. Legal Framework

A Title VII action may be based upon disparate treatment or disparate impact or both. In a disparate treatment case proof of discriminatory motive or intent is essential. *International Brotherhood of Teamsters v. U.S.*, 431 U.S. 324, 335-36 n.15, 97 S.Ct. 1843, 1854-55 n.15, 52 L. Ed. 2d 396 (1977). A plaintiff can create an inference of discriminatory intent by proving the four elements of the *McDonnell Douglas* test[8] or by "offering [other] evidence adequate to create an inference that an employment decision was based on a discriminatory criterion illegal under the Act". *Id.* at 358, 97 S.Ct. at 1866 (footnote omitted).

In an action alleging class-wide discrimination plaintiffs must "establish by a preponderance of the evidence that racial discrimination was the company's standard operating procedure—the regular rather than the unusual practice". *Id.* at 336, 97 S. Ct. at 1855 (footnote omitted). A prima facie case of disparate treatment may be established by statistics alone if

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[8] Under the *McDonnell Douglas* test a plaintiff may establish a prima facie case by showing that: (1) he belongs to a racial minority; (2) he applied and was qualified for a job; (3) despite his qualifications he was rejected; and (4) after his rejection the position remained open and the employer continued to seek applications from persons of complainant's qualifications. *McDonnell Douglas Corp. v. Green*, 411 U.S. 792, 802, 93 S.Ct. 1817, 1824, 36 L. Ed. 2d 668 (1973).

they are sufficiently compelling. *James v. Stockham Valves & Fittings Co.*, 559 F.2d 310, 328-29 (5th Cir. 1977), *cert. denied*, 434 U.S. 1034, 98 S. Ct. 767, 54 L. Ed. 2d 781 (1978). Even when the statistics are compelling, the prima facie case is bolstered if the plaintiff offers anecdotal evidence to "[bring] the cold numbers convincingly to life." *Teamsters*, 431 U.S. at 339, 97 S. Ct. at 1856.

Once plaintiff establishes a prima facie case of disparate treatment, the burden shifts to defendant to rebut the inference of discrimination by showing that plaintiff's statistics are misleading or by presenting legitimate non-discriminatory reasons for the disparity. *Texas Department of Community Affairs v. Burdine*, 450 U.S. 248, 101 S. Ct. 1089, 67 L. Ed. 2d 207 (1981). Defendant's burden is production not persuasion. If defendant meets its burden, plaintiff may show that the asserted explanations are inaccurate or otherwise unworthy of credence. The ultimate burden of persuasion remains at all times with plaintiff.

A plaintiff may also bring a Title VII action under the disparate impact theory. Disparate impact is used to attack employment practices that are facially neutral yet fall more harshly on a protected class of employees. The employer's intent is not at issue. *Griggs v. Duke Power Co.*, 401 U.S. 424, 91 S. Ct. 849, 28 L. Ed. 2d 158 (1971). A prima facie case is established by identification of a neutral employment practice coupled with proof of its discriminatory impact. *Johnson v. Uncle Ben's, Inc.*, 657 F.2d 750, 753 (5th Cir. 1981), *cert. denied*, ____ U.S. ____, 103 S. Ct. 293, 74 L. Ed. 2d 277 (1982). Disparate impact may be established by statistical evidence. *New York City Transit Authority v. Beazer*, 440 U.S. 568, 584, 99 S. Ct. 1355, 1365, 59 L. Ed. 2d 587 (1979). Once plaintiff establishes a prima facie case the burden of persuasion shifts to the employer. *Johnson*, 657 F2d at 752-53. The employer must then prove either that the practice is related to job performance, *Dothard v. Rawlinson*, 433 U.S. 321, 97 S. Ct. 2720, 53 L. Ed. 2d 786 (1977), or that plaintiff's statistical proof is unacceptable. *EEOC v. Datapoint Corp.*, 570 F.2d 1264, 1269-70 (5th Cir. 1978).

1. Disparate Impact Model

Eastland attacks OACD's personnel system under both disparate impact and disparate treatment theories. According to TVA, the attack on the excessive subjectivity of OACD's personnel system fails to identify a specific facially neutral employment practice that can be appropriately tested under the disparate impact model.

TVA relies on *Pouncy v. Prudential Insurance Co.*, 668 F.2d 795 (5th Cir. 1982). In Pouncy the court states:

> The discriminatory impact model of proof in an employment discrimination case is not, however, the appropriate vehicle from which to launch a wide ranging attack on the cumulative effect of a company's employment practices. Nor may just any employment practice be challenged under this model simply because an uneven racial balance exists in an employer's work force.
>
> . . . .
>
> We require proof that a specific practice results in a discriminatory impact on a class in an employer's work force in order to allocate fairly the parties' respective burdens of proof at trial. The aggrieved party must prove a disparate impact due to the selection procedure. The employer then has the burden of proving that the selection procedure is justified by a legitimate business reason. *Johnson*, 657 F.2d at 753. Identification by the aggrieved party of the specific employment practice responsible for the disparate impact is necessary so that the employer can respond by offering proof of its legitimacy. "Knowledge of a legitimate business reason is uniquely available to the employer who is . . . required to persuade the court of its existence by a preponderance of the evidence." *Id.*
>
> . . . .
>
> None of the three Prudential "employment practices" singled out by the appellant—the failure to post job openings, the use of a level system, and evaluating employees with subjective criteria—are akin to the "facially neutral employment practices" the disparate impact model

> was designed to test. Unlike educational requirements, aptitude tests, and the like, the practices identified by Pouncy are not selection procedures to which the disparate impact model traditionally has applied. *See* 3 A. Larson & L. Larson, Employment Discrimination § 73.00 (1981 & 1981 Supp.).

Id. at 800-01 (footnotes omitted).

The use of the disparate impact model in cases such as this one is troublesome. Former Fifth Circuit precedent, however, indicates that subjective selection and promotion procedures may be attacked under the disparate impact theory. *See Johnson v. Uncle Ben's, Inc.*, 628 F.2d 419, 426-27 (5th Cir. 1980), *vacated*, 451 U.S. 902, 101 S.Ct. 1967, 68 L. Ed. 2d 290 (1981), *modified and aff'd in part, rev'd in part*, 657 F.2d 750 (5th Cir. 1981), *cert. denied*, ____ U.S. ____, 103 S.Ct. 293, 74 L. Ed. 2d 277 (1982). Since we agree with the district court that Eastland failed to prove either disparate treatment or disparate impact we need not decide whether this prior case law is distinguishable.

2. Standard of Review

We review findings of fact under the clearly erroneous standard, Fed. R. Civ. P. 52(a), which applies to questions of "ultimate fact" such as a finding of discrimination or nondiscrimination. *Pullman-Standard v. Swint*, 456 U.S. 273, 102 S.Ct. 1781, 72 L. Ed. 2d 66 (1982). "A finding is 'clearly erroneous' when although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that mistake has been committed." *U.S. v. United States Gypsum Co.*, 333 U.S. 364, 395, 68 S.Ct. 525, 542, 92 L. Ed. 746 (1948).

C. The Evidence

Eastland launches a broad-based attack on TVA's personnel system. The district court found the evidence of racial discrimination in transfers, training, assignment and other

conditions of employment unpersuasive. It tersely disposed of these claims, finding that Eastland had failed to carry his burden. We cannot hold the findings of nondiscrimination clearly erroneous. *Pullman-Standard,* 456 U.S. 273, 102 S.Ct. 1781, 72 L. Ed. 2d 66.[9]

The court stated that "the only evidence worthy of review is that on the issue of promotion." Since we are unwilling to disturb the disposition of the other claims, our discussion will focus on the court's treatment of the evidence as it relates to the claim of promotion discrimination.

1. The statistics

Eastland presented a series of pay rate, initial assignment and multiple regression analyses. The analyses were performed for three different groups of TVA employees:

(1) Data Set A: blacks in the class and whites in TVA facilities south of the Tennessee border served by the Muscle Shoals Area Employment Office (MSEO area);

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[9] The certification order limited the class to past and present employees, thereby excluding hiring or applicant claims. The district court refused to consider the initial assignment claims because they were "applicant claims." Since we have held that the certification was not an abuse of discretion, the propriety of the ruling in question turns on whether the initial assignment claims were properly characterized as applicant claims.

Eastland argues that an initial assignment claim is not an applicant claim. An applicant claim relates to the hiring decision. Once a person has been hired, his initial assignment is as much a condition of his employment as is his later promotion or transfer. Eastland cites *James,* 559 F.2d at 316-17, to support the proposition that an initial assignment claim may properly be raised in a case in which hiring discrimination is not at issue. TVA argues that under OACD's procedures applicants are hired for specific positions. Thus the hiring decision includes an initial assignment. TVA distinguishes *James,* pointing out that it involved hiring blue collar workers into unskilled entry level positions and subsequently assigning them to racially segregated departments.

The district court found that the initial assignment claims were applicant claims, thereby implying that OACD's hiring and initial assignment procedures could not be separately analyzed. Although discrete initial assignment claims may be proper in some contexts, the finding that in OACD initial assignment is part of the hiring process is not clearly erroneous.

(2) Data Set B: blacks in the MSEO area and whites in MSEO area;

(3) Data Set OACD: blacks in the class and corresponding whites.

Data Sets A and B include individuals from divisions other than OACD. The district court found the statistics from these sets "irrelevant in determining whether there has been racial discrimination at OACD, a small and unrepresentative portion of [TVA]." Although these statistics could have been considered as corroborative evidence, their rejection was not error.

Eastland's statistics compare salaries of black and white employees. TVA contends that statistics showing disparities in salaries are not probative in determining whether a promotion system is discriminatory. According to TVA, average wage statistics describe "only earnings", and their relationship to the promotion discrimination claim is attenuated.

The analyses use salary as a proxy for position on the job hierarchy. The relationship between remuneration and job level is not so attenuated as to invalidate these analyses. Higher salaries generally coincide with higher level jobs. If blacks at TVA earn less than whites it is because they are assigned to lower ranking, lower paying positions. The Fifth Circuit has implicitly accepted the use of a group's average wage as a proxy for position on the job hierarchy. *James,* 559 F.2d at 321-27 (court found discrimination in job allocation relying in part on the disparity in average hourly earnings between black and white employees); *Vuyanich v. Republic National Bank of Dallas,* 505 F. Supp. 224, 338 (N.D. Tex. 1980). Therefore, while the salary statistics are flawed in other respects they are not irrelevant to the promotion discrimination claim.

A. Pay rate analyses

The pay rate analyses compare the average annual salaries of black and white employees. The analyses classify the employees according to length of service, level of education, job

schedule, and date hired. Statistics were also presented showing the average annual salary upon initial assignment. These analyses generally indicate that black employees earn less than white employees.

The district court gave little weight to the pay rate statistics because they "ignored important differences in skills, education, training and experience. . . ." The court correctly evaluated the limitations of the pay rate statistics. For example, the pay rate analysis showing that blacks and whites with the same number of years of service are paid differently does not demonstrate discrimination because the other factors which influence salary are not considered. While the pay rate analyses are not without evidentiary value, they are deficient because they fail to take into account the fact that a number of factors operate simultaneously to influence the amount of salary an OACD employee receives. *See Wilkins v. University of Houston,* 654 F.2d 388, 402 (5th Cir.), *reh'g denied,* 662 F.2d 1156 (1981), *vacated,* ____ U.S. ____, 103 S.Ct. 34, 74 L. Ed. 2d 47 (1982), *remanded on other grounds,* 695 F.2d 134 (5th Cir. 1983).

B. Multiple regression analyses

Multiple regression analysis is a quantitative method of estimating the effects of different variables on some variable of interest.

> In multiple regression, one first specifies the major variables that are believed to influence the dependent variable. . . . There inevitably remain minor influences, each one perhaps very small, but creating in combination a non-negligible effect. These minor influences are treated by placing them in what is called a random disturbance term and assuming that their joint effect is not systematically related to the effects of the major variables being investigated—in other words by treating their effects as due to chance. . . .

> The relationship between the dependent variable and the independent variable of interest is then estimated by extracting the effects of the other major variables. . .

Fisher, *Multiple Regression in Legal Proceedings,* 80 Colum. L. Rev. 702, 705-06 (1980) (footnotes omitted).

The probatives value of a multiple regression analysis depends in part upon: (1) the inclusion of all the major variables likely to have a large effect on the dependent variables; and (2) the validity of the assumption that the remaining effects (the influences included in the random disturbance term) are not correlated with the independent variables included. *Id.* at 713.

In the case before us Eastland presented two sets of regression analyses and TVA presented one set in rebuttal. In all of the analyses salary is the dependent variable and race (black) is the variable of interest.

In Eastland's first regression the independent variables include: (1) age; (2) years of service; (3) non-technical degree; (4) technical degree; (5) race (other); and (6) race (black). The regression was performed for 1970, 1975, and 1979 on Data Sets A & B, the four-city area[10] and OACD. The regression indicates that race (black) has a statistically significant negative influence on salary.

TVA argues that regression analysis is inappropriate in this case because of the small sample size in terms of the number of blacks in the schedules and the lack of information on pre-TVA work experience. TVA, while maintaining that regression analysis is inappropriate, nonetheless presented a set of regression analyses in rebuttal. TVA ran a separate regression for each job schedule, a regression combining schedules D & E, and a regression combining schedules A & B. All of TVA's regressions are based on 1980 data and employ the same independent variables, which include: (1) age; (2) years of

[10] The "four city area" includes all TVA facilities in Muscle Shoals, Tuscumbia, Florence, and Sheffield, Alabama.

education; (3) years of service; (4) social science degree; (5) physical science degree; (6) engineering science degree; (7) Code R—Phd in any field or chemical engineering degree; (8) race (black).[11] With the exception of the E schedule regression, TVA's analyses indicate that race (black) does not have a statistically significant influence on salary.[12]

Near the end of the trial Eastland introduced a second set of regressions with independent variables basically the same as those used by TVA in its regression. The second regression was performed for the year 1979 on data sets A & B and OACD.[13] This regression indicated that race (black) has a statistically significant negative influence on salary.

The district court found the multiple regression analyses insufficient to establish a prima facie case because they failed to adequately reflect job comparability. Eastland argues that the court erred in its appraisal of his regression analyses. According to Eastland, the function of the regression analyses is to demonstrate that blacks and whites with comparable qualifications are assigned to different jobs on the basis of race. The function of the educational degree variable is to account for differences in background and training. Unless TVA hires unqualified persons one would not expect to find racially based wage disparities between persons with similar technical training unless blacks are being shunted into lower ranking, lower paying jobs.

Eastland's defense of his regression analyses is too facile. Accounting for differences in education and years of service does not eliminate all reasonable objections to regressions performed across disparate occupational categories.

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[11] TVA ran a step-wise regression program. The validity of such programs has been questioned. Fisher, *supra*, at 714.

[12] Generally an F-value of 4 and/or a probability level of .05 is accepted as statistically significant. On the E schedule regression race (black) had a F-value of 3.96 and a probability level of .0546. These values are at the borderline of statistical significance.

[13] Regressions were run on OACD excluding M schedule and OACD excluding F schedule.

TVA maintains that the regressions are entitled to little weight because Eastland: (1) failed to establish an adequate theoretical foundation for his model; and (2) failed to control for job category.[14]

1. Eastland's foundation

The probative value of a regression analysis depends in part upon the inclusion of all major variables likely to have a large effect on the dependent variable. *Wilkins v. University of Houston*, 654 F.2d at 402; *Fisher, supra*, at 713. "[A] properly done study begins with a decent theoretical idea of what variables are likely to be important." *Fisher, supra*, at 715. By evaluating the basis upon which the party selected the variables included in its regression the court may assess the model's validity.

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[14] TVA also insists that the failure of Eastland's regression analyses to account for the influence of pre-TVA work experience seriously undermines the regressions' probative value.

The failure to account for pre-TVA work experience may have some effect on the value of the regressions. *See Valentino v. United States Postal Service*, 674 F.2d 56, 71 n.25 (D.C. Cir. 1982). In light of the fact that TVA's own regressions did not account for this variable, however, the omission should not have substantially impaired the validity of Eastland's model.

> A defendant's claim that the plaintiff's model is inadequate because a variable has been omitted will ordinarily ride on evidence showing (a) that the qualification represented by the variable was in fact considered, and (b) that the inclusion of the variable in the regression changes the results of the regression so that it no longer supports the plaintiff. Both of these facts are established most clearly and directly if the defendant offers an alternative regression model similar to the plaintiff's except for the addition of the variable in question.

D. Baldus & J. Cole, Statistical Proof of Discrimination Sec. 8.23 at 74 (1980 & 1982 Supp.).

It is also argued that Eastland's regressions should be rejected because they fail to filter out the effects of events occurring before Title VII became applicable to OACD. "Statistics tuned to the proper time period are more probative than statistics not so tuned, but categorical rejection of the latter is not warranted." *Valentino*, 674 F.2d at 71 n.26. Eastland's failure to filter out the effects of pre-liability acts is not ground for striking the regressions.

> Three kinds of evidence may be offered in support of a regression model; direct testimony as to what factors operated in the decision-making process under challenge, what kinds of factors generally operate in decision-making processes of the kind under challenge, and expert testimony concerning what factors can be expected to influence the process under challenge according to principles of economic theory.

D. Baldus & J. Cole, Statistical Proof of Discrimination Sec. 8.22 at 70 (1980 & 1982 Supp.) (hereinafter Baldus & Cole). The strength of the factual foundation supporting a regression model may be a factor in assessing whether the group status coefficient indicates discrimination or the influence of legitimate qualifications which happen to correlate with group status. Baldus & Cole, *supra*, Sec. 8.021 at 66 (1982 Supp.).

Eastland did not explain why the variables used in his first regression were selected. Nor did he offer evidence indicating which variables typically determine the salary of an OACD employee.[15] Moreover, TVA's cross examination revealed that Eastland's expert, Dr. Ireland, had only a general understanding of the structure of OACD and was not familiar with the job hierarchy, promotion patterns or the salary level for specific jobs.

TVA's expert, Dr. Martin, challenged the validity of Eastland's model and identified several additional variables which allegedly influenced salary at OACD. TVA maintains that regression analysis is inappropriate in this case, but if a

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[15] *See Stastny v. Southern Bell Tel. & Tel. Co.*, 485 F. Supp. 314, 323 (W.D.N.C. 1978), *aff'd in part*, 628 F.2d 267 (4th Cir. 1980) (lack of solid evidence supporting choice of variables included in regression model was a factor in the court's scepticism concerning the general regression assumption that certain independent variables in fact determine the outcome of decisions); *Presseisen v. Swarthmore College*, 442 F. Supp. 593, 616 (E.D. Pa. 1977), *aff'd*, 582 F.2d 1275 (1978) (lack of expert testimony concerning what factors "typically go into the setting of salaries of a college faculty member" undermined value of plaintiff's statistical expert's testimony and regression model).

regression is done it should account for the fact that the importance of a variable in predicting salary will vary from schedule to schedule. Using an expanded list of variables, TVA conducted a separate regression for each job schedule.

Eastland's second regression adopted "TVA's variables" but ran the regression for all of OACD. Eastland implies that the validity of this model cannot be questioned because the regression employs TVA's suggested variables. TVA, however, emphasized the importance of accounting for differences between the schedules. Thus the validity of the second regression is based upon that portion of TVA's expert's testimony which Eastland chose to accept. Eastland never directly refutes TVA's contention that a variable's importance in predicting salary varies among the job schedules. Instead, he emphasizes that by performing a separate analysis for each schedule one decreases the likelihood of finding statistically significant relationships. In sum, Eastland failed to establish a sufficiently strong theoretical foundation for his regression analyses.

2. Failure to control for job category.

Eastland's regressions include a large number of qualification variables. At no point, however, do his regressions control for job category. The district court found this defect fatal.

Eastland's regressions predict salary across all OACD job schedules with one set of variables. Thus, the regression equation attempts to fit all the varibles to the data set without regard for job category. TVA assets that the importance of a variable in predicting salary varies among the schedules and even among the job titles within the schedules. Therefore, a regression should account for the "interaction" between the kind of job and the other variables.[16] For example, if the pay

[16] Baldus & Cole have recognized that:
one should consider "interaction" variables, which take account of possible interactions between the primary qualification variables. For example, in the hypothetical wage case, a given

range for the F schedule is $13,000 to $15,000 and the range for the M schedule is $20,000 to $55,000, a variable such as years of experience means more on the M schedule than on the F schedule. A regression that does not account for the kind of job and years of experience may yield a statistically significant race effect simply because blacks are more highly represented on the F schedule.

While maintaining that regression analysis is inappropriate in this case, TVA's expert attempted to build a model that would account for interaction between the independent variables and job schedule. TVA says that it was unable to perform the analysis because of difficulties with the logic and complexity of the model and the limited data base. Unable to produce an adequate regression model for all of OACD, TVA opted for a set of regressions broken down by job schedule. TVA's regressions showed a race effect only in the E schedule.

Eastland contends that TVA's regression fails to undermine the probative value of his analyses, pointing out that: (1) the breakdown by job schedule reduces the size of the data base, thereby making it more difficult to establish statistically significant relationships;[17] and (2) TVA's own regression shows a race effect on the E schedule. Although Eastland's arguments are not frivolous, the bottom line in the prolix arguments and responses presented to us is that his regression analyses fail to control for job category.

A recent opinion of the D.C. Circuit supports the contention that a regression performed across disparate occupa-

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increase in the quality of an individual's performance may produce a larger wage increase for people with high seniority than for those with low seniority. In such a case, an interaction variable will be required to describe this relationship; a model that assumes that the wage received is simply the sum of the amounts determined individually by the candidate's seniority and job performance will not fit the date adequately.

Baldus & Cole, *supra*, Sec. 6.313[2] at 203.

[17] "All other things being equal, the test statistic and level of significance rise as the sample size increases." Baldus & Cole, *supra*, Sec. 9.221 at 30.

tional categories must somehow account for job classification. In *Valentino v. United States Postal Service*, 674 F.2d 56 (D.C. Cir. 1982), the plaintiff brought a Title VII action against the Postal Service charging that the subjective promotion system for upper echelon positions discriminated against women. Plaintiff introduced regression analyses that attempted to estimate the influence of sex, length of government service, and years of education on the salaries of Postal Service employees. The court rejected them because of the failure to control for the type of education and job category. *Id.* at 70.

Valentino noted that a plaintiff's statistical data need not consider every conceivable factor relevant to a promotion decision but "the *minimum objective qualifications* necessary for one to be eligible for promotion must be considered." *Id.* at 68 (quoting *Davis v. Califano*, 613 F.2d 957, 964 (D.C. Cir. 1980)) (emphasis in original). The court noted that the burden of comparing appropriate groups in terms of minimum objective qualifications was "onerous" in the case because of the variety of occupational categories involved. In the present case Eastland's analyses account for many objective qualifications, but the failure to control for job category casts doubt on whether the regressions are comparing appropriate groups.

Given the weakness of the theoretical foundation and the failure to control for job category, the district court did not err in determining that Eastland's regressions were insufficient to establish a prima facie case.[18]

2. Individual testimony

Eastland presented testimony from over 20 OACD employees, each of whom testified to having been discriminated against in some manner. The district court found the anecdotal

[18] TVA presented statistics showing that the percentage of blacks in each job schedule at OACD was greater than the percentage of qualified blacks in the outside labor market. TVA also presented progression charts showing the time black and white employees spend in each grade before promotion. The court found TVA's labor market statistics the most relevant statistical data presented. The progression charts were also favorably received. We express no opinion regarding the court's evaluation of TVA's statistical proof, and we disregard these findings as surplusage.

evidence unconvincing and therefore insufficient to establish a prima facie case of discrimination. We have reviewed this evidence, and we cannot hold that the district court erred in concluding that it failed to establish a prima facie case.

Considering both the statistical and anecdotal evidence presented on behalf of the plaintiff class the district court's finding of non-discrimination is not clearly erroneous.[19]

II. Individual Claims

A. Eastland

Eastland applied to TVA for a position as a helicopter pilot. When two openings subsequently arose, white applicants were selected. Eastland contends that he was adequately qualified for the job and the decision not to hire him was racially motivated. The court found that Eastland failed to prove hiring discrimination. The finding of nondiscrimination is clearly erroneous because it is based on several subsidiary findings that are clearly erroneous.

Under the *McDonnell Douglas* test, a plaintiff may establish a prima facie case of intentional discrimination by showing:

> (i) that he belongs to a racial minority; (ii) that he applied and was qualified for a job for which the employer was seeking applicants; (iii) that, despite his qualifications, he was rejected; and (iv) that, after his rejection, the position remained open and the employer continued to seek applicants from persons of complainant's qualifications.

McDonnell Douglas, 411 U.S. at 802, 93 S.Ct. at 1824 (footnote omitted). The district court erroneously found that Eastland had not shown that he was adequately qualified. Eastland was a licensed pilot with considerable flying experience.[20] TVA has

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[19] Having reached this conclusion we have no reason to review the court's findings regarding the subjectivity of OACD's personnel system.

[20] When Eastland applied he had a commercial certificate for helicopters with an instrument rating and a private pilot certificate for single-engine fixed-wing aircraft. In the military and elsewhere Eastland had accumulated over 1,500 hours of helicopter flight time and over 200 hours of single-engine fixed-wing time.

failed to identify any standard additional requirements that applicants must meet.[21]

The court also found that Eastland failed to prove that, after his rejection, TVA continued to seek applications from similarly qualified persons. The Court's position is that Eastland was at best minimally qualified and TVA never sought minimally qualified applicants; the record does not support this conclusion. The finding that after Eastland's rejection TVA did not continue to seek applications from persons with similar qualifications is clearly erroneous.

Eastland established a prima facie case of intentional discrimination. The burden then shifted to TVA to "produc[e] evidence that the plaintiff was rejected, or someone else was preferred, for a legitimate nondiscriminatory reason." *Burdine*, 450 U.S. at 254, 101 S.Ct. at 1094. TVA's burden is production not persuasion. If TVA carries its burden then Eastland must prove that the asserted reasons are pretextual.

The district court found that even if Eastland established that he was qualified for the position, TVA's hiring decision was justified because the white applicant had superior qualifications. But TVA's selecting supervisor did not know whether the white applicant's qualifications were superior at the time the hiring decision was made. TVA's decision cannot be defended on the basis of the relative qualifications of the applicants if these qualifications were not considered.

The court also found that Eastland's failure to apply for temporary employment justified TVA's decision not to hire him. TVA, however, did not assert that it rejected Eastland on that basis.

In sum, Eastland established a prima facie case of intentional discrimination and proved that the articulated nondiscriminatory reasons for TVA's hiring decision were mere pretexts. The judgment must be reversed as to Eastland.

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[21] TVA hired Eastland as a pilot four months prior to trial. His helicopter pilot qualifications were then substantially identical to his qualifications as of 1972.

B. Long

Sanford Long was hired in 1950. During his career at TVA he worked as a laborer, a chemical plant operator and phosphorus recovery operator.[22] He was authorized to serve as a substitute Phosphate Handling Shift Foreman as well as a substitute Chemical Plant Foreman.

In 1975 an opening arose for Chemical Plant Foreman. A white employee, James Hammock, was selected for the position. Long claims that his nonselection as Chemical Plant Foreman was racially motivated. The district court found that although Long was qualified for the position, the white candidate, Hammock, was better qualified. According to the court, Long failed to prove that racial discrimination was the reason for his nonselection. This finding is clearly erroneous.

Long established a prima facie case of intentional discrimination under *McDonnell Douglas* by showing (1) he was black; (2) he was fully qualified for the promotion; (3) he was rejected; and (4) after his rejection Hammock was selected.

The district court found that TVA had rebutted Long's prima facie case by articulating legitimate nondiscriminatory reasons for his nonselection. TVA asserts that Hammock was better qualified because of his broader training experience, initiative and leadership ability. We need not decide whether TVA met its burden of articulating legitimate reasons for its decision because Long established that TVA's asserted reasons were pretexts for discrimination. The findings to the contrary are clearly erroneous.

Long had more seniority than Hammock both as a TVA employee and as a substitute Chemical Plant Foreman. Hammock had both an attendance and drinking problem before and after his selection as foreman. The finding that Hammock's problems did not arise until after his promotion is clearly erroneous. Moreover, Long presented considerable evidence of Bellew's (TVA's selecting supervisor) racial bias. The district

[22] In 1976 Long retired from TVA on a disability pension.

court found Bellew was not racially biased based largely on the testimony of a single witness. Four black employees, however, testified as to Bellew's racially discriminatory behavior. After reviewing the evidence we are left with the definite and firm conviction that the court's finding is in error.

The judgement as to Long must be reversed.

C. James

TVA hired William James as an SF-1 janitor. After several years James was reclassified as a bathhouse custodian SF-2. In 1976, his job classification was reduced from bathhouse custodian, SF-2, to janitor SF-1 under reduction in force procedures prescribed by the Civil Service. James alleges that his demotion was the result of discrimination. We agree with the district court that James' claim is without merit.

TVA maintains that James' grade classification was reduced because of a corresponding reduction in his duties. According to James, the reduction in his workload that prompted his demotion was caused by TVA's tolerance of makeshift bathhouses used by employees who refused to use integrated facilities.

The record supports the finding that in 1976 there was insufficient work at the bathhouse facilities to support James' SF-2 position. James did not demonstrate that the decision to demote him was motivated by a racial animus.

D. Nash

Nash makes three separate claims. As to each the district court found in favor of TVA. We see no error.

First, Nash claims that TVA has taken reprisal against him for contacting an EEO officer. To establish a prima facie case of reprisal, an employee must show by a preponderance of the evidence (1) that he engaged in a protected activity and that that fact was known by the employer; (2) that the employer took an adverse action against him; and (3) that there is a

causal connection between the protected activity and the adverse action. *Smalley v. City of Eatonville,* 640 F.2d 765, 769 (5th Cir. 1981). Evidence that the adverse treatment followed closely upon the protected activity (i.e., contacting an EEO officer) may be sufficient to establish a causal connection. *Payne v. McLemore's Wholesale & Retail Stores,* 654 F.2d 1130, 1141 and n.13 (5th Cir. 1981), *cert. denied,* 455 U.S. 1000, 102 S.Ct. 1630, 71 L.Ed.2d 866 (1982). It is undisputed that Nash contacted an EEO counselor and as a result of that meeting the counselor recommended that TVA conduct a service review of his performance. The review was generally positive but included the comment: "during the early part of the review period [Nash's] work output was below his full capacity." It is not clear that this comment alone constitutes adverse action. In any event, based on the testimony of Nash's supervisor, the court found that the comment was not made in reprisal for EEO activities. This finding is not clearly erroneous.

Nash's second claim is that he was improperly denied reclassification. He testified that there was no material difference in his work before or after he was reclassified from SE-4 to SE-5 in 1976. The findings that Nash failed to prove he was entitled to an earlier or higher reclassification are not clearly erroneous.

Nash's third claim is that he was discriminatorily denied access to the M schedule. In defining the class the district court excluded emoloyees on the M schedule and subsequently ruled that promotions to the M schedule were not a part of the case. We have already determined that the court did not abuse its discretion in narrowing the class. In any event, Nash failed to introduce sufficient evidence to prove his claim.

E. Sheffield

Louie Sheffield joined TVA in 1951 as a chemical aide on the E schedule. He was promoted to SD-1 in 1963 and to SD-2 14 months later. Sheffield claims that (1) TVA's failure to recommend him for reclassification to SD-3 earlier in his career

was caused by racial discrimination; and (2) he was wrongfully denied reclassification from SD-2 to SD-3 in late 1972 after his supervisor had recommended the reclassification. The court found Sheffield's claims to be without merit, and we affirm.

The district court found that Sheffield failed to prove that racial bias caused TVA to delay recommending his reclassification to SD-3. This finding is not clearly erroneous.

In November 1972 Sheffield's immediate supervisor recommended him for reclassification. The reclassification was not effected until August 1973. The court found that TVA's delay in reclassifying Sheffield was caused by the psychological effect of the hiring freeze and the ceiling on average grade level imposed by the executive branch of the government. The finding that Sheffield was not singled out for different treatment because of his race is not clearly erroneous.

We AFFIRM the judgment as to the class claims and the individual claims of the class representatives, James, Nash and Sheffield. We REVERSE the judgments entered against Eastland and Long and REMAND for further proceedings.

APPENDIX E

OPINION OF THE DISTRICT COURT ON THE CLASS CLAIMS

REPORTED AT 528 F. Supp. 862 (N.D. Ala. 1981)

APPENDIX E

IN THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF ALABAMA
NORTHWESTERN DIVISION

FRANK L. EASTLAND, individually, *et al.*,
Plaintiffs,

—against—

S. DAVID FREEMAN, *et al.*,
Defendants.

Civil Action No. 73-G-0487-NW
December 15, 1981

MEMORANDUM OPINION

GUIN, District Judge:

This cause came before the court after a bench trial held from August 11 through 22, 1980, in Florence, Alabama, and from September 29 through October 23, 1980, in Birmingham, Alabama. The bench trial involved individual claims of plaintiffs Frank L. Eastland and Sanford L. Long, and the class action, which is the subject of this memorandum opinion. The claims of Mr. Eastland and Mr. Long are considered in separate memorandum opinions. The class representatives are William N. James, Robert H. Nash, and Louis J. Sheffield. Mr. Long is not a member of the class; however, since Mr. Eastland was briefly employed as a salary policy employee by one of the

organizations within the Office of Agricultural and Chemical Development (OACD), he is a class member. The defendants consist of the members of the Tennessee Valley Authority Board of Directors in their official capacity, S. David Freeman, Richard M. Freeman, and Robert N. Clement, who will be referred to as "TVA;" the Salary Policy Employee Panel (Panel), which represents essentially TVA "white collar" employees exclusive of those on the "M" or management pay schedule; and the Tennessee Valley Trades and Labor Council (Council), which represents essentially TVA "blue collar" employees. Since only a "white collar" class is certified, the Council has not played an active role in this litigation after the entry of the class certification order.

The procedural history of this case is quite lengthy. The original complaint was filed on May 21, 1973, and was substantially amended on October 9, 1973. The court originally disposed of the case on motion for summary judgment by the TVA defendants. The United States Court of Appeals for the Fifth Circuit reversed in part and remanded for further proceedings, and the Supreme Court declined to review that decision. *Eastland v. Tennessee Valley Authority*, 398 F. Supp. 541 (N.D. Ala. 1974), *supplemented* 9 EPD ¶ 10,213 (N.D. Ala. 1975), *supplemented* 10 EPD ¶ 10,362 (N.D. Ala. 1975), *aff'd in part, rev'd in part*, 553 F.2d 364 (5th Cir. 1977), *cert. denied* 434 U.S. 985, 98 S. Ct. 611, 54 L. Ed. 479 (1977). The Fifth Circuit specifically upheld this court's grant of summary judgment against nine of the twelve plaintiffs. All but one of those nine were employees of TVA's Office of Agricultural and Chemical Development (OACD) at Muscle Shoals, Alabama. The ninth was an employee of TVA's Division of Power Production who was seeking an apprentice job at OACD. The Fifth Circuit stated that these individuals could seek to intervene as members of a certified class; none did so. After remand, additional claims of certain of the named plaintiffs were added by supplemental amendments, and another individual, Sanford L. Long, sought to intervene.

At the court's direction, the parties filed briefs, affidavits, and exhibits on the question of class certification, in lieu of a hearing, on February 20, 1980. The court subsequently certified a class consisting of all past and present black salary policy employees who are represented by the Salary Policy Employee Panel of the Tennessee Valley Authority's Muscle Shoals, Alabama, Office of Agricultural and Chemical Development (OACD), from January 17, 1973, until the present. *Eastland v. Tennessee Valley Authority*, 23 EPD ¶ 31,166 (N.D. Ala. 1980). With respect to back pay claims, the court fixed the applicable time limit as two years prior to the date on which any plaintiff first contacted a TVA EEO counselor.

At the initial trial session in Florence, the court dismissed the actions of Mr. Eastland and Mr. Long on the merits with respect to the Panel only. By agreement of the Panel and the plaintiffs, the Panel was dismissed with the stipulation that it would be bound by any decision on the merits. Order and Stipulation of Agust 18, 1980.

The class action alleges unlawful and pervasive discrimination against blacks in promotion, transfer, training, assignment and other conditions of employment by the Tennessee Valley Authority in violation of Title VII of the Civil Rights of 1964, as amended by the Equal Employment Opportunity Act of 1972. The court has subject matter jurisdiction over this action under 42 U.S.C. § 2000e-16(c).

Although the class description does not allege discrimination against blacks as a result of reductions in force (RIF), evidence was presented concerning such discrimination in connection with one of the class member's claims, the claim of Mr. James. However, the court finds that there was no proof of RIFs impacting blacks in a discriminatory manner.

There was no proof of transfers impacting blacks in a discriminatory manner.

Prooof of discrimination in training was limited to the complaints of individual class members, discussed below. The complaints may be summarized as unpersuasive, even as petty

and indicating supersensitivity to the point of near paranoia. Improvement on the part of both plaintiffs and defendants at OACD in communicating with one another is desirable; however, the evidence shows that TVA is aware of this problem and is working on it. The issues in this case do not include mere difficulties in communication, but involve allegations of racial prejudice. There was no racial prejudice in training.

There was no evidence presented supporting discrimination in assignment (not to be equated with "initial assignment"), except for those few such complaints, all adequately explained by the evidence, discussed in this court's review hereinafter of the testimony of the class members. Certainly, even if all the complaints as to assignment were taken as valid, they fall short of proof of unlawful or pervasive discrimination in assignment of plaintiffs at OACD.

The catchall category of "other conditions of employment" as an issue is, for all practical purposes, unsupported by any real attempt at proof. Consequently, the only evidence worthy of review is that on the issue of promotion.

Tennessee Valley Authority (TVA) was created by the Tennessee Valley Authority Act of 1933, 16 U.S.C. §§ 831-831dd (1976), and is an agency of the United States Government. TVA is currently organized administratively into eight offices, with 27 constituent divisions. The office involved in the class action and Mr. Long's claim is the Office of Agricultural and Chemical Development (OACD). Mr. Eastland's claim involved the former Division of Property and Supply, now the Division of Property and Services, Office of Management Services.

TVA employees can be divided into two broad categories: white collar and blue collar. The employees generally represented by the Salary Employee Panel are white collar employees not in management positions. These employees include those on the SA, SB, SD, SE, SF, and SG schedules. Employees on the M (or management) schedule are not represented by the Salary Policy Employee Panel and are hence not part of the

class before this court. (See Orders of October 31, 1979, and July 8, 1980, as amended July 10, 1980.) The TVA white collar positions represented by the Salary Policy Employee Panel are:

the SA (administrative) schedule

the SB (clerical) schedule

the SD (engineering and scientific) schedule

the SE (aides and technicians) schedule

the SF (custodial) schedule

the SG (public safety) schedule

Each of the above schedules is further divided into grade levels and steps within grade levels.

Individuals move from lower to higher grades within schedules or on to different schedules in one of two ways. One way involves the filling of a vacant position by promotion or lateral transfer. The position may have been vacated by a previous incumbent or be one newly created. Rules for selecting the person to be promoted or transferred are found in the Agreement with the Salary Policy Panel. The Agreement generally provides that it is TVA's policy to promote or transfer present employees; outside candidates may be selected if their qualifications are shown to be superior to those of employee candidates. Vacant positions may not be filled until the position has been announced and employees have been given the opportunity to apply for the announced vacancy. Exceptions to this rule include temporary positions for less than one year, positions in the two lowest grades of schedules SB, SE, and SF, and positions in the two lowest levels of schedules SA and SD. However, current employees may indicate interest and be considered for any of these "excepted" positions under TVA's supplementary vacancy announcement procedure. It is clear to this court that the class members benefit from the "employee preference" policy at TVA.

Movement between grades and schedules under this announcement procedure is generally termed "promotion." An

employee's schedule or grade may be also changed by "reclassification," which is a different procedure. The court finds that upward movement within the various pay schedules at OACD is largely by reclassification of positions as opposed to filling positions under the announcement procedures.

It is noted by the court that although the court allowed plaintiffs to pursue the question of selection into the M schedule from the salary policy ranks, which usually occurs from an SD-4 level, no evidence was presented involving OACD. In addition, no evidence was presented concerning alleged blocked progression into the SD-4 position.

After a full trial, this court, pursuant to the mandate of the Fifth Circuit to continually reevaluate the adequacy of representation in (b)(2) class actions, decertifies the class action as to the SA schedule because the named plaintiffs lack a sufficient nexus with the class as to the SA schedule. *Gribsby v. North Miss. Medical Center, Inc.*, 586 F.2d 457 (5th Cir. 1978). *See also, Walker v. Jim Dandy Co.*, 638 F.2d 1330 (5th Cir. 1981); *Johnson v. Uncle Ben's, Inc.*, 628 F.2d 419, 423 (5th Cir. 1980); *Scott v. City of Anniston*, 90 F.R.D. 267 (N.D. Ala. 1981). There is no class representative for this schedule; there was no evidence presented that anyone who is a class member or even *any* black ever applied for a job on the SA schedule or was qualified for such a job. However, as will be seen, this decertification has no effect on the outcome. The court would reach the same result as to the class claims even without this partial decertification.

Furthermore, this court excludes any claims by plaintiffs regarding "initial assignment" since the claims are applicant claims and as such have been excluded by the mandate from the Fifth Circuit.

The class representatives are William N. James, Robert H. Nash, and Louie J. Sheffield. Much of the testimony before the court involved the claims of these class representatives.

Mr. James has been employed by TVA in various capacities since 1948. At the present he is an SF-1 janitor in OACD's

Division of Chemical Operations, and the only class member from Chemical Operations who testified at the trial. He has been a party to this suit since October 1973. His claims revolve around a reduction in grade he received as a result of a reduction in force (RIF) at OACD in 1976. Mr. James' allegations involve, to a large extent, claims of intentional reprisal related to the bathhouses.

The SF schedule is the custodial schedule. In 1950, Mr. James became a janitor in the predecessor organization of the Division of Chemical Development. On January 26, 1958, he became an SF-2, bathhouse custodian, a position he retained without interruption until June 2, 1976. Using TVA's current terminology, this was a move from an SF-1 to SF-2, and was a reclassification of Mr. James' position to reflect a higher level of duties and responsibilities as opposed to a promotion where, in the normal course, a new or vacant position is filled competitively. This reclassification occurred after a request by Mr. James for a reclassification hearing. According to TVA, the reclassification occurred because more than 40 percent of Mr. James' time was spent keeping records on and assigning the approximately 2,000 lockers in the various bathhouses at the Division of Chemical Operations. These duties were judged to be of a higher level than SF-1 janitor duties, and so supported the higher classification.

The integration of the bathhouses at the Division of Chemical Operations took place in 1964. It must be noted by the court, that the majority of Mr. James' testimony in this cause and in his administrative complaint dealt with his allegations that OACD permitted the existence of *de facto* segregated bathhouse facilities for the employees at Chemical Operations. Although the court finds the allegations to be without merit, in order to clear the record the court will devote more attention to Mr. James' bathhouses than the facts strictly warrant.

The record reflects that there have been bathhouses at Chemical Operations since TVA was created in 1933. The

bathhouses were provided for the convenience of the work force and were equipped with lockers, restrooms, showers, and arrangements for drying work clothes. Additional restroom and wash basin facilities were provided at various locations in the work areas, along with tool and storage lockers.

In 1964, four bathhouses were in use. The largest was bathhouse number three, located in the central area of the Chemical Operations plant area. Number three was divided into an east and west end, both of which were in use in 1964. In 1964, number three was restricted to whites only, old number one was used only by blacks, and number five was used by both races, but with a partition separating the races.

Mr. James testified that the white bathhouses were better maintained and more comfortable than the black facilities. OACD management integrated the bathhouses in 1964 under a plan agreed to by management and the unions, with the advice and guidance of Walter R. Goldston, a black employee who had considerable experience in such matters in the local communities. The plan of integration was implemented at a time when Mr. James was on a vacation from his position of bathhouse custodian. The partition was torn down in number five; number one was closed; and number three was being integrated. At this point, Mr. James returned from vacation and objected to the method of integration of the bathhouses. On his own initiative, Mr. James started assigning lockers to blacks in number three without regard to shift or crew membership. Mr. James' testimony that he started his method of integration because the blacks were being crowded into only one area of number three is contradicted by all other testimony presented on this point.

Mr. James' behavior upset the management and union representatives because it disturbed the employees. Mr. James was sent home, but was kept on pay status. Another janitor, James Brown, a black, was temporarily assigned to Mr. James' duties until the initial integration of number three was com-

plete. No disciplinary action was ever taken against Mr. James, and he lost no pay over his disobedience. Upon his return to work, he was temporarily assigned to other duties until the initial integration process was complete, whereupon he resumed his full duties as bathhouse custodian.

During the time period of 1964 to 1973, bathhouse use decreased. This decrease was due to a combination of a shrinking work force at Chemical Operations resulting from a series of RIF's and a change in working conditions and personal habits, which were described in some detail by Mr. Hester. Bathhouse number five was closed down, and three new bathhouses were built.

In 1973, OACD management decided to contract out the maintenance work at Chemical Operations because of the higher labor costs associated with such work by Chemical Operations' own forces. This change in policy led to a sizeable reduction in force (RIF), which affected the bathhouse use. Number two was turned over to the work force of the maintenance contractor, and Chemical Operations' management initially decided to shut down number three and keep only number four open to meet the bathhouse needs of the reduced work force, fewer of whom were using the facilities in any event.

Because of these changes, the position of bathhouse custodian, SF-2, in which Mr. James served, was originally planned to be eliminated in 1973. However, he was offered continued employment as a janitor at level SF-1.

The employees, both white and black, requested management to keep bathhouse number three open. Due to the preference of the employees, management decided to keep number three open, and close number one and number four. A result of this decision was the cancellation of Mr. James' RIF on August 21, 1973.

Mr. James contacted the TVA EEO counselor on August 3, 1973, prior to the cancellation of his RIF. His formal EEO complaint was filed on August 22, and alleged that OACD's

decision to close number three and eliminate his position as bathhouse custodian as a result was taken in reprisal for his civil rights activities. In addition, he claimed that the building and ground supervisor, a black M schedule employee, had put an unfavorable and unjustified memorandum in his personnel file in order to build a false record of unsatisfactory work performance and thus to lay the groundwork for his demotion or termination, and that his supervisor was not affording him his rights under the law.

TVA's director of EEO rejected the complaint on September 7, 1973. He ruled that part of the complaint had become moot due to the intervening cancellation of the RIF. The issue of Mr. James' supervision was rejected as untimely since it sought to reopen Mr. James' 1969 EEO complaint about the selection of two other black men to be the building and ground supervisor, Braska Coffey, and janitor foreman, James Brown, over him. This complaint had been decided adversely to Mr. James, and his subsequent suit in this court was dismissed with prejudice. The rest of the complaint was rejected as beyond the purview of the EEO complaint procedure as presented, since it sought to review the rejection of Mr. James' union grievance over the memorandum he received from Mr. Coffey. The grievance had been rejected for untimeliness. The TVA decision instructed Mr. James how to frame this last issue so that it would come within the purview of the EEO procedure, but the record fails to show any effort by Mr. James to follow this advice. This decision formed the basis for Mr. James' original allegations in the October 1973 amended complaint in this action.

At trial, the facts surrounding the 1973 complaint were addressed by Mr. James only as additional background to the 1976 EEO complaint. The court notes that there is nothing in the record to support a finding that the TVA decision was erroneous. The issues arising from Mr. James' 1969 EEO complaint were moot administratively and judicially by 1973, and his RIF had been cancelled. Mr. James did not properly invoke the administrative complaint process with regard to Mr.

Coffey's memorandum to him, and failed to take advantage properly of the director of EEO's demonstration of how to raise the issue of management's rejection of his grievance. The record is undisputed that Mr. James did not follow any of the available procedures to review the memorandum from his supervisor. In 1976, Chemical Operations experienced a major RIF with the final closing down of the entire phosphate branch. Half of the Chemical Operations' employees were terminated through the RIF.

The position of bathhouse custodian was eliminated in the 1976 RIF. Bathouse number three was closed. However, Mr. James was retained as a janitor at SF-1. Mr. James continues to hold this position.

Mr. James filed a formal EEO complaint on March 31, 1976. He alleged that he had been discriminated against in the selection of Harry Nash, a white male, for the position of building and ground supervisor, the M-1 position previously held by Mr. Coffey. Mr. James also alleged that he and other black members of the building and ground unit had been discriminated against by the lack of promotional opportunities for them. Finally, he alleged that his demotion to SF-1 in the RIF was due to racial discrimination. He alleged that Chemical Operations would not have been able to reduce the number of bathhouses it maintained if it had not tolerated segregated "makeshift" bathhouses elsewhere in the plant.

TVA's director of EEO issued a decision on December 22, 1976, finding no discrimination in Mr. James' claims. The decision noted that the M schedule position of building and ground supervisor had been eliminated in the 1976 RIF and that Harry Nash, an SD schedule chemical engineer, assumed minor supervisory duties over the janitors, with the principal supervision being assigned to the black SF-3 janitor foreman, Mr. Brown. The RIF was found not to be discriminatory; it affected a major portion of Chemical Operations and impacted both white and black employees. This decision was the basis for Mr. James' January 18, 1977, supplemental amended complaint in this suit.

It is clear to the court that the series of RIF's which the Chemical Operations underwent from 1969 to 1976 would clearly limit promotional opportunities for all races. The opportunites for advancement in the janitorial work at Chemical Operations were severely limited. Testimony at trial revealed that a large number of individuals took advantage of other opportunities to move into jobs with greater potential for advancement. Mr. James was offered such advancement opportunities through the years and turned them down for personal reasons, such as dislike of work on other than the day shift, and a desire not to conflict with non-TVA employment. Jobs such as chemical plant operators required rotating shifts. Mr. James' allegation about Harry Nash's "selection" as supervisor of the building and ground unit is completely erroneous. This position was filled by a black man, Mr. Coffey, prior to the 1976 RIF. The position was eliminated in that RIF; Mr. Coffey retired; and the position has not been recreated. Prior to the 1976 RIF, Mr. Nash was an SD-4 engineer; he was an SD-4 engineer after the RIF; he is still an SD-4 engineer. Due to the elimination of Mr. Coffey's position, the primary supervision of the remaining janitors was assigned to the incumbent SF-3 foreman, Mr. Brown, himself a black, and Harry Nash was given the very minor responsibility of serving as Mr. Brown's superior. Thus, Mr. James is attacking an alleged promotion that was never made.

As far as Mr. James' allegation that his position at SF-2 would not have been reduced in the 1976 RIF if the OACD had suppressed the purported makeshift bathhouse facilities, this court is of the opinion that no such facilities existed. At the time of the 1976 RIF, Mr. James was no longer performing duties above the SF-1 level for at least 40 percent of his time. Furthermore, even if all the employees present after 1976 had used the bathhouse facilities, it appears that there would not have been sufficient work to support Mr. James' position at SF-2. The division shrank from having 2,000 lockers in 1958 to 350 in 1976.

Thus, Mr. James does not appear to have a valid claim on any of his allegations before this court.

The next claim of a class representative considered by the court is that of Robert H. Nash. Mr. Nash has been employed by TVA since 1962 and by the Division of Chemical Development since 1965. He has been a chemical laboratory analyst since 1965. He was reclassified from SE-2 to SE-3 on January 2, 1966; from SE-3 to SE-4 on July 26, 1970; and from SE-4 to SE-5, which is his present grade, on May 9, 1976. He orignally joined this suit in October 1973, but summary judgment against him was entered and affirmed on the claim he raised at that point. His individual claim at issue, added by an amendment, concerns events in 1973 and 1974. It involves his dissatisfaction with the service review he received on April 1, 1974, for the period from June 1, 1973, to April 1, 1974, and his belief that his position was not properly classified. Reprisal is an element of his allegations.

The facts of Mr. Nash's allegations are relatively simple. In May 1973 he was an SE-4 chemical laboratory analyst working for John F. McCullough, an M-5 research chemist, in what at that time was termed the Fundamental Research Branch. Mr. McCullough had recommended that Mr. Nash's position be reclassified from SE-3 to SE-4 in 1970.

Mr. McCullough was subsequently promoted. At this time he decided to reassign Mr. Nash to assist Richard Sheridan, who was and is an SD-4 research chemist. Mr. McCullough made this assignment due to Mr. Sheridan's current projects and need for some assistance from a technician.

Mr. Nash objected to the assignment. He was concerned about working for a superior who was not on the M schedule, and he alleged that Mr. Sheridan had a negative attitude toward him as a black man. The court finds that Mr. Nash's allegations about Mr. Sheridan's alleged racism were unfounded based on the testimony presented at trial. It appears that Mr. Nash's beliefs about Mr. Sheridan's alleged animus adversely affected his work performance during the early part of his assignment to Mr. Sheridan. His productivity was below that of his normal capacity. However, after the period of initial difficulty, his level of performance became satisfactory. At a later time, Mr. McCullough counseled Mr. Nash on the matter of his productivity and some problems with his tardiness.

Mr. Nash became dissatisfied with what he perceived to be his lack of progress as a chemical laboratory analyst. Because he believed that he was performing work at a level higher than SE-4, he contacted the EEO counselor on January 21, 1974; the counselor recommended that Mr. Nash be given a service review. It is this service review which is the subject of Mr. Nash's complaint. In this review, Mr. Nash was rated by Mr. Sheridan for the period of June 19, 1973, through June 1, 1974. The review reflected fully adequate performance in four work performance areas, adequate performance on other elements of service, and adequate or better for his total service. Mr. Sheridan also included a comment which stated as follows:

> Mr. Nash does careful and reliable work; however, during the earlier part of the review period, his work output was below his full capacity. After informal counseling by his supervisor, there has been a marked improvement in his work output and his general attitude that demonstrates his capability to perform at a more than satisfactory level.

Mr. Nash objects to the criticism of his productivity, and filed his formal EEO complaint on April 29, 1974. He alleges that the service review is inaccurate and that he was underclassified, as a reprisal for his EEO activities and on the basis of his race. TVA's director of EEO found no discrimination or reprisal in his decision issued on December 18, 1974. However, he directed management to improve communications with Mr. Nash, to conduct a classification review of his position, and to provide him with some measure of accomplishment so that he could determine his progress towards SE-5. A classification review was performed by an expert from TVA's Division of Personnel, who found that the job was properly classified. This evaluation was never challenged.

Mr. Nash appealed the decision by the director of EEO to the United States Civil Service Commission's Appeals Review Board, which affirmed the director's decision in all respects on August 19, 1975.

This court finds that Mr. Nash has no valid claim concerning the service review. The question of the proper classification of Mr. Nash's position must also be resolved against him. Mr. Nash's comparison of his own job duties to those of Raymond Thrasher, an SE-7, and Lucian Kendrick, an SE-6, is unsupported by the evidence. Mr. Nash's analytical procedures appear to have been quite routine.

The evidence is also not sufficient to show any reprisal motivation, and Mr. Nash has failed to show the court any reason to disbelieve Mr. McCullough's flat denial that he criticized Mr. Nash for his EEO activities.

In June 1974, Mr. Nash was placed under the supervision of John Kohler, a research chemist in Mr. McCullough's group. Mr. McCullough had decided that Mr. Kohler needed more help than Mr. Sheridan and felt that it might be a good idea to separate Mr. Nash and Mr. Sheridan due to the pending EEO complaint. Mr. Kohler is Mr. Nash's supervisor at the present time.

In 1976 Mr. Nash's position was reclassified to SE-5 due to a decreased level of supervision required for Mr. Nash and due to the increase in complexity of his work, which had moved into the research area from analytical assignments.

The court notes with interest that Mr. Nash, with OACD financial support, chose to obtain an MBA degree rather than upgrade his knowledge of chemistry, and has turned down an M-schedule position on the EEO staff in Chattanooga.

The court finds that Mr. Nash has no valid claim under his complaint herein.

The remaining class representative is Louie J. Sheffield. Mr. Sheffield has been employed by OACD since 1952. From 1957 until 1963 he was a chemical laboratory analyst. On February 3, 1963, his position was reclassified from SE-4 to SD-1, as an analytical chemist. His position was reclassified to SD-2 on April 26, 1964; and to SD-3, his present grade, on August 5, 1973. Mr. Sheffield has a BS degree in chemistry from North Carolina A & T College; at the time of Mr. Sheffield's gradu-

ation, the chemistry curriculum at North Carolina A & T College was not accredited by the American Chemical Society. He has been a party to this action since October 1973. He alleges a racially based denial of reclassification of his chemist position during the period from November 1972 until August 1973. He also alleges that he was discriminated against in day-to-day work assignments, by denials of higher level work which would have supported an earlier reclassification of his position.

Chemical Development and OACD require a BS degree in chemistry from an American Chemical Society approved curriculum for initial hiring to a professional chemist position (on the SD schedule). Recipients of non-ACS degrees are generally eligible for consideration for positions on the SE (subprofessional) schedule. Individuals with non-ACS degrees are considered for SD positions if their schools have met all of the substantive requirements for ACS accreditation, or if they have had substantial related work experience. The evidence before this court shows that OACD has applied this policy equally to blacks and whites. Blacks and whites with ACS degrees have been hired into SD schedules (with the exception of at least one white with an ACS degree who was hired into an SE position), while blacks and whites without ACS degrees have started in SE positions, and blacks and whites from schools with the equivalent of ACS accreditation (Southern University and the University of North Alabama) have been hired into SD positions. Current employees on the SE schedule can progress to the SD schedule by upgrading their skills, abilities, and knowledge, their work experience or additional education and training, and then assuming duties and responsibilities at a higher level. Mr. Sheffield was a beneficiary of this route to professional ranks, as were other employees.

The lab in which Mr. Sheffield worked had no real control over the level of its work. This lab had to work on analysis of whatever samples were sent to it by other organizations with OACD. From the testimony of Mr. Sheffield's supervisors before the court, it appears that Mr. Sheffield was assigned work on the basis of his abilities and what was available in the lab at the time, and not on his race.

On the issue of the delay in the reclassification of Mr. Sheffield's position from SD-2 to SD-3 during the period of late 1972 through the middle of 1973, the court must note that the OACD was laboring under two separate and major personnel restrictions imposed by the Executive Branch. One was an absolute ceiling on the number of employees in the organization. The other was a ceiling on average grade level, which restricted moving an employee into a higher grade position unless the move was to replace a former employee. Each organization within TVA was assigned its own employment ceiling and average grade level by top TVA management through the Division of Personnel. In their concern that employees whose positions were overdue for reclassification might look elsewhere for work, Chemical Development management presented a list of top-priority individuals to Mr. Duggins in the summer of 1972, and he was able to secure limited relief from the controls from the Division of Personnel, as long as the reclassifications were done slowly. Mr. Sheffield was not on this priority list submitted in the summer of 1972.

Mr. Duncan, Mr. Sheffield's supervisor, did not recommend that Mr. Sheffield's position be reclassified until late November 1972, due to the fact that Mr. Sheffield had not been performing work on the SD-3 level until that time. Mr. Duncan's recommendation for reclassification included the names of six people in the general analytical lab. Before any paper work was started on any of these six employees, the President ordered a freeze on promotions in federal employment on December 11, 1972. Since reclassifications are not formal promotions, this restriction did not have a firm effect on Mr. Sheffield's reclassification. However, the reclassification of all six lab employees was stayed until after TVA submitted its management plan to end the "freeze" in March 1973. There is no basis to believe that Mr. Sheffield was singled out for different treatment because of his race. The average grade controls, plus the freeze implemented by the President, appeared to have had a psychological effect on the minds of management.

The court finds that progression in general in this lab was not guaranteed. Mr. Sheffield himself testified about three white employees who retired as SD-2's. Furthermore, Mr. Sheffield has never taken advantage of available OACD financial support to take additional course work in his field or in any other field, unlike so many of plaintiffs' other witnesses and other class members. Mr. Sheffield has no valid claim herein.

The plaintiffs failed to show by testimony at trial or by other evidence presented to the court a single valid claim of any black who should have been promoted and was not. However, the court will briefly discuss the claims of the other class members who testified at trial.

Mr. Claude Eubanks is a black class member who was initially hired by OACD as a scientific cooperative student in 1967. After spending some time in the military, Mr. Eubanks was hired in 1971 as an SD-1 analytical chemist in the general analytical laboratory in Chemical Development, the same unit where Mr. Sheffield was employed. He has progressed to an SD-3 through reclassification of his position, and is currently attending the University of Alabama in Tuscaloosa as a candidate for an MS degree in chemical engineering. OACD is paying his tuition, along with full salary and benefits. He has also been reimbursed by OACD for other course work.

Mr. Eubanks alleges two claims in connection with the comparison of his treatment with that of Charles Gilbert, one of his white peers in the lab, who was hired at the SD-1 level. Mr. Eubanks alleges that Mr. Gilbert was hired at a within-grade salary one step higher than himself. However, this treatment was explained by a personnel officer at OACD, Cathy Isom, who testified that Mr. Gilbert's higher grade step was due to the fact that he had been a cooperative student at TVA and had therefore worked for OACD for a longer period of time when he was hired after graduation.

Mr. Eubanks also alleges that Mr. Gilbert has been exposed to more analytical procedures. However, the two men's promotions occurred at approximately the same time. Mr. Eubanks' concerns appear imaginary due to the identical progression of the two men to date.

Mr. Wendell Plain is a class member who was hired by OACD as an SD-2 research chemist in 1975. He has since progressed to an SD-3. He has an MS degree in chemistry. At the present time he is pursuing an MS degree in chemical engineering under the same OACD-paid arrangements as Mr. Eubanks, and has also recieved reimbursement for other course work from OACD. Mr. Plain also alleges that a white, Mr. James Norman, was hired at a higher within-grade at the same time that Mr. Plain was hired. However, this treatment was explained by Mr. Norman's much higher grades in school.

Mr. Plain also complained that his progression to SD-3 was slower than it should have been due to problems with his supervisor, Dr. Yong K. Kim, an oriental. It should be noted that plaintiffs' claims appear to be centered upon the "unfettered discretion of the white supervisors at OACD," and, therefore, Mr. Plain's problems with his oriental supervisor should not be addressed. On the other hand, Mr. Plain's complaints appear to be quite trivial; he complains that at times on his service reviews he should have been rated outstanding instead of better than average or fully adequate.

Mr. Johnny Smith is another class member who testified at the trial. He was an SD-2 research chemist in the research branch in Chemical Development at the time of trial. The reclassification of his position to SD-3 was in process. Mr. Smith has a B.S. degree in chemistry from Alcorn A & M University, and was in the midst of a Ph.D. program at V.P.I. when he came to work for OACD in June 1976 as an SD-1 research chemist. When he left V.P.I., he had completed enough course work to qualify for an M.S. degree but failed to write a thesis. According to Mr. Davis, Chemical Development will work with Mr. Smith to enable him to obtain the M.S. degree from V.P.I. Most of Mr. Smith's testimony consisted of hearsay comments made by, or allegedly made by, James R. Lehr, the head of Mr. Smith's section. The court fails to give credence to the garbled accusations made by Mr. Smith. Testimony from Mr. Lehr and Marilyn Taylor, TVA's director of personnel, and a black woman, puts the hearsay in its context

and shows that Mr. Smith had not been singled out in a discriminatory fashion.

Mr. Earl Bailey is also a class member. He is an SE-5 agricultural aide in the soils and fertilizer research branch of the Division of Agricultural Development. He was the only witness from this division at OACD who testified for plaintiffs. He has a B.S. degree in biology from the University of North Alabama.

Mr. Bailey's complaint appears to have been resolved through the EEO complaint resolution process. Mr. Bailey works in the greenhouses. Prior to 1978 there were two white, long-time SE-5's who worked with him and were approaching retirement age. OACD personnel officers had concluded that due to some changes in higher levels of supervision at the greenhouses, the SE-5 position could not be justified by the level of work, and planned to abolish the positions after the incumbents retired. Mr. Bailey had formed the expectation prior to this time that his position would be reclassified to SE-5 when the incumbents retired. Upon learning that his position would not be so classified, he instituted an administrative EEO complaint. After an investigation the complaint was resolved and Mr. Bailey received an SE-5 classification and back pay, with the understanding that the SE-5 position would not necessarily be filled at that level once Mr. Bailey vacated it. It appears that both sides acted in good faith. The court also notes that Mr. Bailey, while an SE-4, turned down an offer of an SE-5 at the greenhouses at TVA's Brown's Ferry Nuclear Plant near Athens, Alabama, for financial reasons which seemed important to him.

Mr. John Holmes, a class member, was an SD-2 analytical chemist in the analytical research laboratory in the engineering services branch of Chemical Development at the time of trial. Mr. Holmes has a B.S. degree in chemistry from Alabama A & M University; his chemistry curriculum is not accredited by the American Chemical Society. Mr. Holmes has chosen not to pursue additional studies in his field, but is working on an M.B.A. degree from the University of North Alabama, which is being paid for by OACD.

Mr. Holmes' allegations involve his position in a prior quality control lab, where he was employed as an SE schedule chemical laboratory analyst. After voicing some concern about advancement opportunities in this lab, he was given a lateral transfer to the analytical research laboratory, where he currently works. His immediate supervisor in the prior lab was black. The smaller lab where he worked prior to the transfer was staffed entirely by blacks. However, the court notes that Mr. Clark worked in a similar small quality control lab, which was staffed by whites except for him, and they were also on the SE schedule. Thus the advancement opportunities in this lab were connected to its size and work, and not the race of the staff.

Mr. Holmes' demonstration of interest and ability has been recognized by management, and has led to his transfer into an area with more scope, both in terms of size and level of work. This transfer has apparently assisted his progression upward.

The court received a great deal of evidence concerning the claim of Ms. Ruby Goodloe. Ms. Goodloe started working at OACD in 1974 on a part-time basis, while she was a full-time chemistry student at the University of North Alabama. Ms. Goodloe graduated from the University of North Alabama in December of 1977 and came to work in the fundamental research branch as an SD-1 research chemist in early 1978. She later progressed to an SD-2 analytical chemist. She resigned from OACD in April 1980.

Ms. Goodloe testified to a long story of her problems with supervisors from early in her career until its end. She ascribes all these problems to discrimination on the basis of her race. The principal portion of her testimony involved Robin M. Scheib, who is currently an M-5 research chemist in charge of the scanning electron microscope (SEM) laboratory. The testimony concerning Mr. Scheib involves Ms. Goodloe's work for him as both a part-time SE schedule employee and as an SD chemist.

Ms. Goodloe first alleges an allegation of discrimination near the end of her part-time employment. She claims that Mr. Scheib and Dr. Stephen K. Seale gave her an assignment as a "test" to determine what within-grade step she would receive as an SD-1. However, Mr. Scheib claims that the assignment was a useful examination of some sample preparation methods. The court finds that Ms. Goodloe's within-grade step at SD-1 had nothing to do with her performance of this assignment.

Ms. Goodloe claims that other white employees were exposed to more jobs and that she was left to train white employees in darkroom procedures in the SEM lab after which they would move on to other things. There is no evidence to support her claims. Ms. Goodloe was always assigned the more complex and demanding darkroom work and production of finished prints and layouts.

Ms. Goodloe complains that Mr. Scheib criticized her more harshly than her fellow white employees. However, Mr. Scheib claims that he would become impatient with Ms. Goodloe because she persisted in making the same mistakes after she had been initially corrected.

Ms. Goodloe claims she was not adequately trained on the equipment in the SEM lab, was not allowed to go to training school, and instead was sent to a seminar which she felt was unhelpful to her, due to her lack of experience with the SEM. Mr. Scheib testifies that Ms. Goodloe received the same training on the SEM that he had had, that she was not sent to the school because she had already been taught the methods the school taught, and that she was sent to the SEM seminar to be exposed to methods of analyzing coal samples, of which Mr. Scheib expected an increase due to the operation of the new "ammonia from coal" plant at OACD. Ms. Goodloe left the SEM seminar early. She claims that her bed was uncomfortable; Mr. Scheib testified that she told him that she was homesick. Regardless, she left the seminar before the session on coal samples.

Ms. Goodloe claims that Mr. Scheib harassed her with problems concerning her time sheets while she was a part-time employee, by calling her out of coffee breaks for no reason, and

by failing to allow her study time on the job, unlike other white employees. The court finds that these allegations were unsupported by the testimony at the trial.

Ms. Goodloe's service reviews from Mr. Scheib were also a point of allegation at the trial. Ms. Goodloe's disagreements with Mr. Scheib's assessments were brought before the EEO counselor. Although Mr. Scheib felt that his review accurately reflected her performance, he agreed to upgrade her review on the points of contention, and the matter was resolved. Her service review by Mr. Scheib was also a point of contention upon Ms. Goodloe's transfer to Dr. Ray Gremillion's supervision in May [illegible]79. Again, Ms. Goodloe went to the EEO counselor. Once again, Mr. Scheib upgraded her review on several points, motivated apparently by the spirit of compromise.

The transfer to Dr. Gremillion's supervision is also an issue. The work at the SEM lab had not expanded in the expected fashion, and Dr. Gremillion needed help. His assistant, Suzanne Hunter, had been shifted into a new assignment with Dr. Seale, more in keeping with her skills. Mr. Lehr and Dr. Seale had two slots to fill: one was with Dr. Gremillion, a position of considerable potential for upward movement; the other position was with Wendell Wilhide, to assist him in operating a piece of analytical equipment called the XRF. Mr. Lehr and Dr. Seale decided to place Doris Ash, now an SD-1, after completing her B.S. degree in chemistry at the University of North Alabam, with Mr. Wilhide, and to give the position under Dr. Gremillion to Ms. Goodloe, in order to utilize her total work experience, especially her background with the SEM, which would be helpful in Dr. Gremillion's work. Ms. Ash had worked for Mr. Wilhide on a part-time basis while she was a student at the University of North Alabama. However, Ms. Goodloe had applied for the job with Mr. Wilhide.

Ms. Goodloe was of the opinion that the position with Dr. Gremillion had no future. This opinion was based on an earlier attempt by Dr. Gremillion to reclassify the position when Mrs.

Hunter had it. Ms. Goodloe was informed of the unknown potential of the XRF position with Mr. Wilhide. The black employees branch protested her transfer, and Dr. Seale settled the matter by letting her have her choice of the two jobs. She chose the position with Mr. Wilhide on the XRF.

From her testimony before the court, it appears that the XRF was not the best choice for Ms. Goodloe. The XRF machine was relatively new to OACD. Much of Ms. Goodloe's time with the XRF was spent on the critical work of sample preparation in what was called the grinding room. Mr. Wilhide gave a detailed description of the procedures and emphasized the importance of producing a homogeneous sample for analysis by the XRF. It is clear to the court that Ms. Goodloe's work during this period was not exciting, but it was vital to the proper utilization of the XRF and served as an appropriate background to her understanding and training on the equipment. The court specifically rejects Ms. Goodloe's allegations concerning Mr. Wilhide's behavior during this period. Ms. Goodloe alleges that Mr. Wilhide was pressuring her to produce more by moving some of the sample preparation equipment closer together and by keeping a close eye on his watch when she was working. As Mr. Wilhide testified, he moved some equipment around due to his concern to save Ms. Goodloe a few steps while carrying a heavy load. He also had a habit of looking at his watch while he was away from the XRF because of the equipment's time cycle. Although Ms. Goodloe alleges some problems with her informal service review from Mr. Wilhide, Mr. Wilhide indicated on the review that there were no problems with her work. It was obvious that Mr. Wilhide was satisfied with her work and told her so.

As with the SEM, the question of training came up in the context of the XRF. Ms. Goodloe alleges a lack of training and an assignment beneath her professional status, due to discrimination because of her race. This claim is unfounded. She was given some exposure to the XRF and provided with some background training materials on the principles used by the XRF in the fall of 1979. She was sent to the school run by the

vendor of the XRF to learn how to use it. She was given full permission to operate the XRF as much as she desired while Mr. Wilhide was on leave in late 1979, an opportunity of which she did not take advantage. After he returned from his leave, Mr. Wilhide was told by Ms. Goodloe that she had not run the XRF. He concluded that he should not pressure her into operating the equipment, and started giving her more experience on the XRF only after she asked for it, close to the time of her resignation.

Upon her resignation, the State of Alabama rejected her claim for unemployment compensation by stating that: "The claimant did voluntarily leave her most recent bona fide work with [TVA] and she did so in order that she might relocate to be with her husband who is employed in Chicago, Illinois. This is an excellent personal cause for leaving but does not constitute good cause connected with work for leaving." Ms. Goodloe had claimed that her resignation was due to the adverse racial climate on her job.

Ms. Goodloe's problems with her supervisors appear to the court to be due to her failure to adequately communicate her feelings to her supervisors. It appears that she did not take criticism well and often repeated mistakes after correction. Thus the court finds that her individual behavior and reactions created her problems, not her race.

Defendants introduced labor market analyses of the various schedules at OACD, comparing the black representation on these schedules with the percentage of blacks with the appropriate qualifications in the labor market. Defendants introduced such statistical data for the years 1972, 1975 and 1979. In all three years for the schedules remaining in this action, the percentage of blacks in the labor force at OACD was higher than the percentage of blacks in the relevant labor market.

Furthermore, representation on certain schedules was even found to be significantly higher, more than two standard deviations, than the relevant labor market percentages. In 1972, black representation in the SB and SF schedules was significantly higher than in similar occupations in the labor

force. In 1975, black representation on the SD and SF schedules was more than two standard deviations higher than the percentage of blacks in the relevant labor market. By 1979, the percentage of blacks at OACD on schedules SB, SD and SF was significantly above the relevant labor market percentages. As discussed further in this opinion, the court finds these comparisons to be relevant to the issues before this court. Although defendants used 1970 census data, it is the opinion of this court that these census figures are the most recent available numbers, and are the data provided by the Alabama Department of Industrial Relations for EEO compliance purposes. Because it is clear to this court that certain unskilled workers cannot be promoted to skilled positions, the court feels that these labor market statistics presented by the defendants are the most relevant statistical data presented to the court.

In addition, the defendants submitted evidence concerning promotions and reclassifications by a comparison of the amount of time blacks and whites spent in a job title, schedule, and grade before they were reclassified or promoted to a higher schedule and grade. The defendants' expert, Dr. Martin, prepared progression charts depicting promotions and reclassifications of individuals in each of these job titles, which showed the number of months the individuals spent in their schedule and grade before they were promoted or reclassified to the next schedule and grade. No comparisons were made unless there were blacks and whites in the same category. There were no statistically significant differences between blacks and whites in comparing the amount of time spent in a schedule and grade prior to promotion or reclassification and, in addition, no pattern of blacks having spent a longer time in schedule and grade prior to promotion or reclassification. Again, it should be reiterated that about 80 percent of the upward movement at OACD is by reclassification, normally within a job title. The remainder of the upward movement is by promotions connected with TVA's vacancy announcement system.

Plaintiffs' statistical proof involved primarily comparisons of the average salaries of blacks and whites at OACD. It should be noted, however, that plaintiffs produced no evidence that blacks in the same kind and level of work were paid any less than whites. These comparisons ignored important differences in skills, education, training, and experience, and this court finds that these salary data that do not take into consideration these differences are entitled to little or no weight, particularly in a scientific research organization such as OACD, which utilizes such varied skills and talents.

Plaintiffs' regression analyses also compare salaries of jobs requiring a wide range of skills, education, training, and experience. Once again, the variables selected by the plaintiffs for the regression analyses failed to adequately reflect job comparability. Plaintiffs' analyses can be given little weight in light of the many important variables excluded. Furthermore, the plaintiffs' data cannot be used to establish a prima facie case of either disparate treatment or disparate impact.

This case involves both disparate treatment and disparate impact claims.

In disparate treatment cases, the plaintiff must show proof of discriminatory animus or intent. *Arlington Heights v. Metro. Housing Corp.*, 429 U.S. 252, 97 S. Ct. 555, 50 L. Ed. 2d 450 (1977); *Teamsters v. United States,* 431 U.S. 324, 97 S. Ct. 1843, 52 L. Ed. 2d 396 (1977). *McDonnell Douglas Corp. v. Green,* 411 U.S. 792, 93 S. Ct. 1817, 36 L. Ed. 2d 668 (1973), sets forth the basic allocation of burdens and order of presentation of proof in a Title VII case alleging discriminatory treatment. First, the plaintiff has the burden of proving by the preponderance of the evidence a prima facie case of discrimination. Second, if the plaintiff succeeds in proving the prima facie case, the burden shifts to the defendant "to articulate some legitimate, nondiscriminatory reason for the employee's rejection." *Id.* At 802, 93 S.Ct. at 1824. Third, if the defendant carries this burden, the plaintiff must prove by a preponderance of the evidence that the legitimate reasons offered by the defendant were merely a pretext for discrimination. *Id.* at 804, 93 S.Ct. at 1825.

To establish a prima facie case of disparate treatment, the plaintiff must show:

(1) that he belongs to a racial minority;

(2) that he applied and was qualified for a job for which the employer was seeking applicants;

(3) that, despite his qualifications, he was rejected; and

(4) that, after his rejection, the position remained open and the employer continued to seek applicants from persons of complainant's qualifications.

McDonnell Douglas v. Green, 411 U.S. 792, 802, 93 S. Ct. 1817, 1824, 36 L. Ed. 2d 668, 677 (1973).

The court finds that plaintiffs have failed to prove a prima facie case of disparate treatment. The plaintiffs have failed to show the required racial animus for their claims, as required for recovery under a disparate treatment claim. The plaintiffs have failed to provide evidence to the court of a single example of a black who should have been promoted or reclassified upward and was not. Finally, the plaintiffs' statistical evidence fails to establish a prima facie case of disparate treatment.

Although neither set of statistical data aptly approaches the main question before the court, which is promotions, the labor market comparisons of the defendants are more appropriate than the statistical evidence presented by the plaintiffs.

Plaintiffs attempt to argue that the use of labor market comparisons is inappropriate in light of language in *Johnson v. Uncle Ben's, Inc.,* 628 F.2d 419 (5th Cir. 1980), which states:

> [T]he district court must decide whether Uncle Ben's has rebutted or discredited plaintiff's prima facie showing that in promotions blacks are relegated to lower level jobs and are promoted at a significantly slower rate than whites. On this question, statistics comparing Uncle Ben's work force to the external labor market are irrelevant.

628 F.2d at 426. However, this language is inapplicable to the case before this court, as the plaintiffs have not proven that blacks are promoted at a significantly slower rate than whites; nor that they are relegated to lower level jobs, as the following discussion shows.

The plaintiffs' statistical evidence based on average salaries is biased on the low side for blacks due to the large number of blacks hired by TVA (as a result of aggressive affirmative action) in recent years at entry level salaries. In addition, the statistical evidence presented by the plaintiffs regarding the MSEO area[1] is totally irrelevant in determining whether there has been racial discrimination at OACD, a small and unrepresentative portion of TVA's activities in the MSEO area.

The Fourth Circuit has provided support for the court's use of the defendants' labor market comparison:

> If special skills are required for the promotion jobs, the Commission [Equal Employment Opportunity Commission] must produce evidence of the number of qualified blacks in lower level positions at RSC. Defendant's SMSA [standard metropolitan statistical area] qualified market data does not indicate an available labor pool in promotion and transfer cases, but such evidence may nonetheless be relevant, as we indicated in *Patterson v. American Tobacco Co.*, 535 F.2d 257 (4th Cir. 1976), in assessing defendant's compliance with the requirements of Title VII. Accordingly, proper regard must be given to RSC's qualified labor market statistics in the absence of evidence indicating the actual percentages of blacks in lower positions who possess the required qualifications.

Equal Employment Opportunity v. Radiator Specialty, 610 F.2d 178, 186-87 (4th Cir. 1979). Accordingly, this court gives credence to the labor market statistics of the defendants, in the absence of appropriate statistical data from the plaintiffs.

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[1] The "MSEO" area is defined by plaintiffs' counsel, for the purposes of this case, as the TVA facilities served by the Muscle Shoals Employment Office that are south of the Tennessee border.

Plaintiffs have also alleged that the TVA personnel system, which is facially neutral, has a disparate impact on blacks. Plaintiffs claim that the supervisory force, which is predominantly white, has "total unfettered discretion" in making decisions concerning blacks at OACD, and this "total unfettered discretion" is a particularized employment practice to be tested under the disparate impact analysis of *Griggs v. Duke Power Co.*, 401 U.S. 424, 91 S. Ct. 849, 28 L. Ed. 2d 158 (1971). Under *Griggs*, if a plaintiff shows that a particularized employment requirement has discrimatory effect, defendants must then show the requirement has business necessity. The law does not support the proposed legal theory of the plaintiffs. They have failed to establish a prima facie case.

A proper appraisal of this discriminatory impact claim requires an analysis of the personnel system, which in turn requires a finding that there is no discriminatory impact of the standards or of their application to the class. *Griggs v. Duke Power Co., supra.*

As discussed earlier, TVA has a system of formal written standards and statutory and nonstatutory controls governing personnel actions at OACD. There are three review systems for an aggrieved employee: (1) appeal through the personnel system, (2) the union grievance procedure, and (3) the EEO procedure. An employee may actually use all three review systems. The employment situation at OACD is thus different from that in *Rowe v. General Motors Corp.*, 457 F.2d 348 (5th Cir. 1972), where it was an absolute requirement for employees to obtain their immediate foreman's recommendation before they could be promoted, and there were no formal written standards for the foremen to apply.

The formal written job descriptions at OACD provide an objective, reviewable description of the duties and responsibilities of the position. Very few examples of apparently personalized job descriptions were found by the plaintiffs after exhaustive discovery. The discovery of a mere handful of such examples among thousands of job descriptions proves that, for all practical purposes, TVA's job description system is and has

been objective. Neither has a single case been shown of an abuse of either of the three review systems in use or of failure of any of the three to function fairly and as intended.

It is interesting to note that plaintiffs never contended that their job descriptions or those of the class were subjective or discriminatory or unlawful in their pretrial contentions, even though these job descriptions are the keystone of the TVA personnel system. Furthermore, the plaintiffs' expert witness, Dr. Ireland, never discussed the job descriptions.

Plaintiffs' claim regarding a subjective "good old boy" network to fill management and supervisory positions is an attempt to create a class claim based upon discriminatory treatment in promotion to top management positions, without having to prove the requisite discriminatory animus, which proof does not exist in the record. Moreover, as stated earlier, promotions to the M schedule are not a part of this case. (*See*, orders of October 31, 1979, and July 8, 1980, as amended on July 10, 1980.)

Eighty-three percent (83%) of the promotions at OACD are brought about by reclassification. It is difficult for the court to overlook the conflict of interest created by the plaintiffs' contention that TVA's employee preference policy is evidence of discrimination, since the class is composed of TVA employees who necessarily benefit from the policy they attack.

The court also notes that subjectivity itself is not against the law; a subjective reason for a personnel action that does not hide discrimination satisfies an employer's burden. *See, Wilkins v. University of Houston,* 654 F.2d 388 at 400 (5th Cir. 1981); *Ramirez v. Hofheinz,* 619 F.2d 442, 446 (5th Cir. 1980). *Bay v. Goodyear Tire and Rubber Co.,* 23 EPD ¶ 30,903 at 15,674 (S.D. Tex. 1980), states:

> Subjective reasons for the failure to promote Plaintiffs should be given consideration in rebutting their charges of discrimination, for courts recognize that employment decisions often cannot realistically be made on the basis of objective standards alone. *Id.* An employer's decision may properly be based on subjective factors.

> Most importantly, this Court must consider the result of Goodyear's promotional practices. Regardless of whether objective or subjective factors were utilized, did they result in an adverse treatment or impact upon Black employees? The answer here is "no." Accordingly, the mere presence of subjective procedures in the promotional process is not discriminatory. *Jenkins v. Caddo-Bossier Assn. for Retarded Children,* 570 F.2d 1227 (5th Cir. 1978).

(Citations omitted). Again, it should be pointed out that no satisfactory proof was ever offered to the court that any particular black should have been promoted and was not (or was otherwise mistreated in a manner within the issues herein). If plaintiffs have a class claim, surely they can find *one good example* of discriminatory mistreatment of a black employee. *See, Wilkins v. University of Houston,* at 400-01 (5th Cir. Aug. 28, 1981). Thus, plaintiffs have not met their burden of proof to show that it is the standard operating procedure of OACD managers to treat blacks differently and unfavorably in promotions, reclassifications, training, work assignments, and reduction in force, on account of their race.

Plaintiffs attempt to prevail by alleging that white TVA managers make subjective decisions, especially in the handling of work assignments that might lead to faster professional development. In order for the court to find for the plaintiffs on this rationale, the court would have to "establish a presumption that left to their own devices whites will, at least unconsciously, discriminate against blacks." *Grant v. Bethlehem Steel Corp.,* 22 FEP Cases 687, 689 S.D.N.Y. 1978).

This presumption is not the law; in fact, plaintiffs' present chief counsel established such in *Grant.*

In assessing the statistical evidence, the Supreme Court has dictated that plaintiffs cannot carry their burden of proof by use of statistics unless their statistics are both relevant to their contentions and account for no reasonable interpretation other than the conclusion they seek to draw. *New York City Transit Authority v. Beazer,* 440 U.S. 568, 582-87, 99 S. Ct. 1355, 1364-66, 59 L. Ed. 2d 587, 600-604 (1979). As discussed *infra,* the

average salary statistics presented by plaintiffs are lower for blacks than for whites due to the disproportionately large number of blacks hired (through affirmative action) in recent years at entry-level salaries to increase the number of black employees at TVA. Evidence was presented to the court that TVA was quite aware of and sensitive to the desirability of an aggressive affirmative action program. Regardless, defendants have aptly pointed out to the court that according to the plaintiffs' proof of average salaries over the relevant time period, on or after January 17, 1973, the average salary of blacks at OACD has increased by 88.2 percent, while the average salary of whites has increased by 54.5 percent.

In conclusion, because plaintiffs have failed to provide evidence to the court of a prima facie case of disparate treatment or disparate impact, or even an example of a single black who should have been promoted and was not, much less appropriate statistical data on the pool of qualified blacks that could be promoted, this court finds for the defendants.

An order consistent with this memorandum opinion will be entered contemporaneously herewith.

APPENDIX F

AFFIDAVIT OF
PROFESSOR FRANKLIN M. FISHER

APPENDIX F

UNITED STATES COURT OF APPEALS
FOR THE ELEVENTH CIRCUIT

FRANK L. EASTLAND, et al.,
Plaintiffs-Appellants,
—against—
TENNESSEE VALLEY AUTHORITY, et al.,
Defendants-Appellees.

No. 82-7008
AFFIDAVIT

COMMONWEALTH OF MASSACHUSETTS,
COUNTY OF MIDDLESEX, } ss.:

FRANKLIN M. FISHER, being duly sworn, deposes and says:

1. I am Professor of Economics at the Massachusetts Institute of Technology, where for a number of years I have taught courses in statistics and econometrics to graduate students in economics.

2. I am the author of "Multiple Regression in Legal Proceedings", 80 Col. L. Rev. 702 (1980), cited in the May 2, 1983, decision in this case.

3. I have written, alone or with others, more than 90 published articles and 9 books in the fields of economics, econometric theory and applied econometrics. Econometrics is the application of statistical and quantitative techniques, including regression analysis, to economic phenomena. From 1968 to 1977 I was the Editor of *Econometrica,* the journal of the Econometric Society, and in 1979, I was the President of the Econometric Society.

A. MY CONCLUSIONS

4. I have reviewed plaintiffs' exhibit 515, which summarizes the results of a large number of statistical tests, and the multiple regression analyses presented by both plaintiffs and defendants. My conclusion is that the materials of both sides make a strong and statistically sound showing that black employees have been assigned to jobs paying substantially less than the jobs to which whites with the identical qualifications have been assigned. The possibility that these showings can be attributed to chance or to any distortion caused by aggregating data for different schedules or jobs is so remote that it can be discarded. The reasons for these conclusions are set forth below.

5. The court criticized plaintiffs' pay rate analyses because "they fail to take into account the fact that a number of factors operate simultaneously to influence the amount of salary an OACD employee receives." (Decision, pp. 2872-73). The most appropriate type of analysis capable of taking these factors into account simultaneously is multiple regression.

6. When, as is apparent in this case, an initial glance at pay rates for blacks and whites indicates that there are significant pay rate disparities in favor of whites, it is appropriate —indeed required—to make more refined analyses of the data to see whether those disparities can be explained by factors other than race. Here, those further refinements were obviously made and they confirm that black race continued to be a significant, negative factor on pay rate. Similarly, where statistically significant results are found in relatively small samples, findings of significance in larger samples—such as Data Sets A, B, MSEO and Four Cities, which include the group corresponding to the class definition but are broader than it—demonstrate that the findings in the small samples were not flukes.

B. THE THEORETICAL FOUNDATIONS OF THE REGRESSION ANALYSES RECEIVED IN EVIDENCE

1. Factors Other Than Job Category and Job Schedule

7. Regressions are used in many different types of situations (see my article at 703-05), and it is important to develop a theory as to which variables are important before performing the regressions. The theory need not be elaborate, and need not be based on the results of a preliminary investigation; one must merely determine on some reasonable basis "those variables that one thinks are actually important" and begin with them. (See my article at pp. 713-14.) In an employment case involving both scientific jobs and nonscientific jobs, the use of technical degree, nontechnical degree, no degree (a category necessarily resulting from the employees who have neither a technical degree nor a nontechnical degree), years of service at TVA, and age (a factor which helps measure in rough fashion the amount of pre-TVA experience) are intuitively reasonable. They are the factors one would most expect to influence the jobs on which TVA's employees work, if race is not given weight in making those decisions. Race must then be added as an independent variable, to see if race is in fact given weight, after controlling for such other factors. This is an adequate theoretical foundation, particularly in light of the fact that plaintiffs have informed me that the first regressions introduced by plaintiffs (PX 516, 517) were the only ones they had performed and were not simply their first successful results after earlier unsuccessful attempts, and the fact that the variables they later tried (PX 636) produced the same results.[1]

8. The independent variables used by TVA are supported by the testimony of TVA's expert, Dr. Martin, at pp. 2603-2625 of the transcript. They differ from plaintiffs' variables in that

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[1] Plaintiffs' efforts should be contrasted with TVA's on this point. According to TVA's expert, the regressions offered by TVA were not the first ones they performed. Dr. Martin testified at Tr. 2610: "I hate to admit that there were a number of regression analyses that were done as I was trying to build the file."

they break down degrees by area of major concentration: social science, natural science, physical science, engineering science (other than chemical engineering), Code R (either a doctoral degree in any field or a chemical engineering degree), and highest grade completed. These, too, are intuitively reasonable for the type of jobs in question, and are adequately founded.

9. The fact that plaintiffs' earlier regressions, which were run using the variables described in paragraph 7 (PX 516-517), produced the same statistically significant results as plaintiffs' later regressions which were run using TVA's variables described in paragraph 8 (PX 636), and that both sets showed that black race had a substantial negative effect on job placement, shows conclusively that the differences in the two sets of variables do not make any practical difference. For purposes of analysis, one set of variables is as good as the other.

2. Taking Job Category and Job Schedule into Account

10. Multiple regressions allow one to study the effect of a particular factor on a dependent variable while controlling for the effect of other factors. This means that multiple regression estimates yield the effect of the factor of interest with other factors held constant. However, while it is very desirable to hold constant the effect of factors other than the one under study, it is self-defeating to hold constant the very factor whose effect is to be measured.

11. In the present instance, the factor whose effect (if any) is to be measured is that of race. Racial discrimination in employment can work in at least two different ways. It can produce systematically different wages for equally qualified whites and blacks in the same job or it can act through the systematic assignment, promotion, or reclassification of blacks to job categories which are lower paying than those to which equally qualified whites are assigned, promoted or reclassified.

12. To test whether blacks are systematically paid less than equally qualified whites in the *same* job, it is necessary—by definition—to control for job category, to make sure

that jobs are indeed the "same" within the limits of the data. This can be done either by performing separate analyses for each job category or (sometimes) in an overall analysis by using variables which reflect job categories. Any procedure which controls for job categories, however, can only reveal whether discrimination acts through differential wages for the same job category; *it is incapable of revealing whether discrimination acts through differential assignment, promotion or reclassification to job categories.*[2]

13. To test whether discrimination does act through differential job assignment, promotion or reclassification, one *must not* control for the effect of job categories on wages. To do so is to hold constant the very phenomenon whose differential operation (if any) one seeks to measure.

14. This can be put in different language. If discrimination operates through the assignment, promotion or reclassification of blacks to lower-paying job categories or job schedules, then examination of relative wages in the *same* job category or schedule can never discover it. Yet controlling for job category or schedule through multiple regression does exactly that by holding job category or schedule constant. Only a multiple regression which does *not* control for job category or schedule is capable of testing whether discrimination works in this way. Such a regression would indeed control for variables such as education and years of service, and would answer the question whether equally situated blacks and whites are afforded unequal treatment, whether or not that treatment takes the form of classifying them into different job categories or schedules.

15. In the present case, the regressions done by the plaintiffs *properly* fail to control for the effect of job category or

[2] The case examined for illustrative purposes in my article (at pp. 721-725) is that of discrimination in wages for employees *in similar jobs.* It is for that reason that I remarked (*id.* n.32) that "[c]ontrolling for job classification is an obvious thing to do and might be done by multiple regression". I did not there examine the case in which discrimination operates through job classification.

schedule[3] while those by TVA *improperly* do control for job schedule. The defendants' regressions apparently fail to find a statistically significant effect of race on job placement for some schedules,[4] while the plaintiffs' regressions do find such an effect.

16. The discussions of Schedules A, B and M may help make this point clear. I am informed by counsel that TVA regularly promotes or reclassifies employees on Schedule B to jobs in Schedule A, and regularly promotes or reclassifies employees on Schedule A to jobs on Schedule M.[5] In most years, there were no blacks in OACD who were working on Schedules A or M; in 1980, there was one black in OACD on Schedule M. To break down an analysis separately by each schedule puts a "thumb on the scale" by making it impossible to measure the effect of any racial discrimination in promotions or reclassifications from Schedule B to Schedule A or from Schedule A to Schedule M. In fact, if there was pervasive discrimination in promotions *between* schedules but no discrimination *within* schedules, then no schedule-by-schedule regression could, even in theory, detect the racial discrimination in promotions and reclassifications. Only an analysis combining at least Schedules A, B and M would show such discrimination. Similarly, if there were racial discrimination in assigning, promoting and reclassifying employees between Schedules E

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[3] I understand that plaintiffs did perform a regression excluding Schedule F, to respond to TVA's contention that including this schedule in the regression might produce a distortion and a "false positive" finding of discrimination. There was still a substantial, statistically significant negative effect of black race in job placement. (PX 636) Thus, the inclusion of this schedule did not produce a distortion. The same is true for the regression excluding the M Schedule. (*Id.*) There is no basis for concluding that these results would have been any different if the M Schedule or the F Schedule had been deleted from the regressions in PX 516 and PX 517.

[4] In reality, there is a significant effect. (See ¶¶ 17-20, *infra.*) For purposes of the present section I suppose for the sake of argument that no significant effect is found.

[5] In similar fashion, TVA regularly promoted or reclassified employees on Schedule E to jobs in Schedule D.

and D, or between Schedules D and M, only an analysis combining at least these schedules would show such discrimination.

C. INTERPRETATION OF TVA'S REGRESSIONS

17. My conclusions from TVA's own regressions are that, despite the weakening of the power of statistical tests to detect significance because of the small numbers of blacks when each schedule is examined in isolation: (a) black race was a significant negative factor affecting pay rate among equally qualified black and white employees on Schedule E; (b) there is a strong likelihood that the same is true for Schedule D and that the failure to find a greater level of significance is simply a "false negative" distortion caused by the small number of blacks working on this schedule; and (c) examination of the results for Schedules D and E together shows that black race was in fact a significant factor affecting job placement among equally qualified black and white employees when Schedules D and E are combined. See DX 201 and DX 202.

18. The level of significance found by TVA's studies on a "two-tailed" basis for race was .0546 on Schedule E, .1635 on Schedule D, and .0906 on combined Schedules D and E. The "two-tailed" test of significance is appropriate only if there is equal interest in the question of discrimination against whites as there is in the question of discrimination against blacks. Its use doubles the probability level found on a "one-tailed" test.[6] Because counsel inform me that this case challenged the subjective personnel determinations of white TVA officials as disadvantaging blacks, the only question of interest here is whether blacks have been harmed. A "one-tailed" test of significance is appropriate, and a "two-tailed" test is not. Correcting the doubling of the significance level caused by the TVA program's automatic printing out of "two-tailed" results,

[6] Because regression equations are run in many situations, the standard computer programs report the two-tailed level of significance. If a one-tailed test is appropriate, the reported significance level is divided by 2.

the actual significance levels are .0273 for Schedule E, .0818 for Schedule D and .0453 for combined Schedules D and E. These are all unusual events; and one is entitled to question their fairness even if they do not all meet the arbitrary 95-out-of-100 times corresponding to the .05 level of significance.

19. It is also improper to view the results for Schedule D as totally separate from the results of Schedule E. In each equation, blacks were found to hold lower paying jobs than similarly qualified whites. Because TVA's regression for Schedule D is independent of TVA's regression for Schedule E, and because both operate under the same personnel system, it is proper to ask what the probability is that *both* sets of results could have occurred by chance. This is calculated by multiplying .0273 by .0818, for the result of .0022. In other words, black race is such a significant negative factor affecting job placement among equally qualified black and white employees on Schedules, D and E, that TVA's own results in DX 201—showing that blacks on Schedule D earn $1,220, and blacks on Schedule E earn $2,250, less than their similarly qualified white counterparts—could have occurred by chance only 22 times in every 10,000 cases.

20. It may be objected that this probability is artificially small because the probability that analysis of *some* pair of schedules will show significant racial effects is substantially bigger than the probability that analysis of Schedules D and E in particular does so. Which calculation is appropriate rests on whether there is reason to be specially interested in Schedules D and E or whether those schedules have been singled out only after seeing the results. I understand from counsel for plaintiffs that in fact there are reasons for being specially interested in Schedules D and E. In any event, it does not matter to this conclusion which view is adopted. Assuming that there was no effect of black race in the regressions for Schedules A, B and F, the other schedules which comprised the class at the time of

trial, [7] the probability of observing racial effects in at least two schedules as significant as those observed in fact in Schedules D and E is only .034, less than the 5% level at which results are conventionally said to be significant. If one eliminates Schedule A from consideration—an appropriate thing to do since with no blacks on Schedule A no racial effect could be estimated—the probability of observing racial effects by chance as big as those observed on Schedules D and E for at least two out of four schedules is even less, about .021.

/s/ FRANKLIN M. FISHER

Franklin M. Fisher

Sworn to before me this
16th day of May 1983.

/s/ CLARK HOOPER

Notary Public

[7] This is a conservative assumption. The stepwise regression technique used by TVA does not permit one to know whether such an effect of race shows up if it is statistically insignificant enough.

APPENDIX G

AFFIDAVIT OF PROFESSORS DAVID C. BALDUS AND JAMES W. L. COLE

APPENDIX G

UNITED STATES COURT OF APPEALS
FOR THE ELEVENTH CIRCUIT

FRANK L. EASTLAND, et al., *Plaintiffs-Appellants,* *—against—* TENNESSEE VALLEY AUTHORITY, et al., *Defendants-Appellees.*	No. 82-7008 AFFIDAVIT

STATE OF NEW YORK,
COUNTY OF ONONDAGA, } ss.:

STATE OF PENNSYLVANIA,
COUNTY OF ALLEGHENY, } ss.:

DAVID C. BALDUS and JAMES W. L. COLE, being duly sworn, depose and say:

1. We wrote the treatise cited by the Circuit Court in this case, D. Baldus and J. Cole, *Statistical Proof of Discrimination* (1980 and 1982 Supp.).

2. Mr. Baldus is a lawyer and is on the faculty of the University of Syracuse School of Law. Dr. Cole is a mathematical statistician with a Ph.D. from the University of North Carolina. He taught statistics at the University of Iowa from 1968 to 1975. Since 1975, he has been an independent statistical consultant and has testified as an expert in the field of statistics.

3. Two aspects of the interpretation of the statistical evidence in *Eastland v. TVA* have come to our attention as being worthy of comment. First, the Court appears to place on

the plaintiffs a heavy burden of accounting for interaction terms in a broad class of cases in which multiple regression methods are offered as evidence. This is of particular concern to us, because the Court's reasoning suggests that our previous efforts in discussing this issue are not sufficiently clear.[1] Second, in its final evaluation of the statistical evidence the Court does not take advantage of statistical methods which have been used and accepted in recent cases, which permit a statistical assessment of the degree to which separate pieces of suggestive evidence become persuasive when viewed jointly.

I.

THE GENERAL CONSEQUENCES OF OMITTING INTERACTIONS

4. In its evaluation of regression analyses put forward by the plaintiffs in *Eastland v. TVA*, the Circuit Court appears to accept the defendants' contention that the inclusion of terms accounting for interactions between job types and other qualifications are an absolute prerequisite for an adequate multiple regression equation when modeling the promotion decisions in a diverse work force.[2] In this analysis, the Court appears to have drawn on a statement in our book.[3]

5. Certainly when a single regression is put forward as a representation of a decision process operating throughout a diverse work force, there is a legitimate concern that interaction terms may be needed if the model is to give a representation which is sufficiently accurate in relevant respects as to be useful. For example, when it seems likely that an additional year's seniority will yield a greater salary increase among managerial employees than among other employees, one may anticipate that a schedule-by-seniority interaction may be needed.[4] How-

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[1] The discussion in question is in Baldus and Cole, *Statistical Proof of Discrimination*, Shepards McGraw, Hill (1980), at 203.

[2] *Eastland v. TVA*, at 2876.

[3] *Id.* at n.16.

[4] *E.g., Eastland v. TVA*, at 2876.

ever, what is anticipated is not always what occurs. The world of multiple regression modeling is full of pitfalls and surprises, even for the experienced practitioner. For example, an examination of the defendants' regression equations representing separate job schedules indicates that in fact marginal differences in seniority were not rewarded more among managerial workers than among all others.[5] In this world of complexity the need for interaction terms cannot be established on the basis of a simple rule, but rather by weighing a number of considerations and drawing on several pieces of statistical information.

6. In the discussion which follows we expand on several points considered in our book at pp. 277-281, using as a point of departure the question of whether "schedule-by-race" and "schedule-by-qualification" [6] variables are required in defendants' regression models fitted to the employees in the pool obtained by merging job schedules D and E.[7]

7. A preliminary consideration to be noted is that the inclusion or omission of a schedule-by-race interaction and a schedule-by-qualification interaction have essentially different consequences for the probative value of the resulting equation, particularly when the equation omitting the interaction term has a race coefficient large enough to support an inference of disparate treatment against blacks.

8. In this situation, the inclusion of a schedule-by-race term may lead to the inference that the disparate treatment is more pronounced in one schedule than in another, but it cannot make the evidence of disparate treatment vanish in both

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[5] Compare coefficients for YRSSER for Schedule M, Step 12 (B = 212.99) with corresponding coefficients for Schedule B, Step 4 (B = 220.01), Schedule D, Step 7 (B = 227.82), and Schedule E, Step 5, (B = 174.72) (DX 201).

[6] In this discussion, "qualification" is a generic term which may denote any of the following variables included in the TVA regression models: AGE, HIGR, YRSSER, SSCI, NSCI, PSCI, ESCI and CODE R.

[7] See DX 202.

schedules simultaneously. Thus, in general, if a multiple regression without a schedule-by-race interaction indicates the presence of class-wide disparate treatment, the defendants' position will not be improved by the addition of that interaction.

9. On the other hand, the consequences of omitting or adding a schedule-by-qualification interaction are less predictable. When a regression omitting such an interaction has a race coefficient supporting an inference of disparate treatment, it is not predictable in general whether the addition of such an interaction will tend to inflate, leave unchanged, or deflate the net disparity associated with race. From the converse viewpoint, this means that when a schedule-by-qualification interaction is required, its omission may bias the regression in favor either of the defendant or the plaintiff and neither the direction nor the magnitude of the bias is predictable.

10. In this respect schedule-by-qualification interactions are essentially similar to other qualification variables which the plaintiffs may have overlooked or otherwise omitted from the equation. Accordingly, challenges, in particular the judgment as to the need for a qualification-by-schedule interaction, by the defendants focusing on the omission of one or more schedule-by-qualification interaction should be evaluated according to the same principles, and applying the same burdens, as challenges focusing on the omission of an allegedly significant qualification variable.

11. In this light, procedures which test the statistical significance of the interaction terms at issue provide useful statistical evidence as to the need for the interaction terms, just as stepwise regression procedures use significance tests to aid in the selection of variables for a multiple regression model.

12. However, the most probative evidence as to the adequacy of a regression model in the face of a challenge faulting the omission of schedule-by-qualification variables is a comparision of the challenged model with an alternative put forward by the challenging party, by which one can determine

whether and in what direction the addition of the interaction terms changes the coefficient for the race variable.[8]

II.

INTERPRETATION OF THE STATISTICAL EVIDENCE FROM SCHEDULES D AND E

13. The analysis of the separate regressions in DX 201 presents plaintiffs with a problem which the Court acknowledges:

> "The breakdown by job schedule reduces the size of the data base, thereby making it more difficult to establish statistically significant relationships."[9]

This problem in the interpretation of statistical evidence has been recognized elsewhere as being potentially a major impediment to plaintiffs in discrimination cases.[10] Various statistical methods are available which combine the evidence from separate sets of data, and assess their weight when they are applied jointly to bear on a question common to the analysis for each separate data set. Although these methods have been available to statisticians for a relatively long time, their use in discrimination cases is a much more recent development. However, in view of the potential severity of the problem that plaintiffs face when forced to control for variables like job classification, the wider acceptance of such methods in appropriate circumstances is to be recommended.

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[8] For further discussion of factors to be considered when weighing a challenge centering on the omission of a qualification variable, see Section 8.23 of the 1982 supplement to our book.

[9] *Eastland v. TVA*, at 2876.

[10] *See, e.g., Valentino v. United States Postal Service*, 674 F.2d 56, 72, 28 F.E.P. 593, 606 (D.C. Cir. 1982). The absence of a finding of statistical significance means either that there was no discrimination or that there *was* discrimination but that the test of statistical significance was too weak to detect it, given the small number of blacks working on the schedule and the size of the differences in pay. With small sample sizes, such "false negative" findings occur quite often.

14. The method which has been used and accepted most widely in the cases is sometimes referred to as Fisher's Method.[11] While not necessarily the best method in any given situation, Fisher's Method has the advantages of being relatively simple to apply and understand and of being applicable in a broad class of circumstances.

15. A comparison of the analyses in DX 201 for separate schedules with a parallel analysis in PX 636 for the pooled Schedules A, B, D, E, and F (labeled "OACD 1979 EXCLUSIVE OF SCHEDULE M" and found on pp. 43-54 of the exhibit) demonstrate how the analysis of the data within schedules handicaps the plaintiffs by decreasing the probability of obtaining statistically significant associations even when the estimated magnitude of the disparity is not materially changed. In the final step of the analysis for the pooled schedules, the estimated race effect is $1,685.90 with a standard error of $643.15 producing an F ratio of 6.871[12] which is significant at the .01 level. By comparison, the corresponding results from the last steps in Schedules D and E which contain estimates of the race effect are, for Schedule D, estimated race effect, $1,221.56, standard error $871.82, F ratio, 1.96, significance level .1635, and for Schedule E, estimated race effect $2,254.28,

[11] After R. A. Fisher, an English statistician. This method is used to combine the results of independent analyses in which individual levels of significance for the race coefficient have been computed. To apply the method, the "natural" logarithm of each level of significance is multiplied by minus 2, and these products are summed. The resulting sum can then be treated as a Chi-squared random variable with degrees of freedom equal to twice the number of independent analyses. For applications or discussions of this method in discrimination cases, *see, e.g., Jurgens v. Thomas,* 29 F.E.P. 1561, 1569 n.21 (N.D. Tex. 1982); *Brown v. Delta Airlines,* 30 F.E.P. 39, 45 n. 14 (S.D. Tex. 1982); *Adams v. Gaudet,* 30 F.E.P. 1258, 1294-96 (W.D. La. 1981). For a general discussion of the methodology *see* Fisher, *Statistical Methods For Research Workers* (12th Ed.) (Oliver & Boyd 1954), at 99-100; Rosenthal, *Combining Results of Independent Studies,* 85 Psych. Bull. 185, 186-88 (1978).

[12] In this situation, the F ratio can be computed as the square of the ratio between the estimated effect ("B") and its standard error.

standard error $1,158.40, F ratio, 3.79, and significance level, .0546.

16. Notwithstanding the discussion of interactions in the previous section, the principal reason for analyzing the data within separate job schedules is to avoid being misled by the possibility that blacks are concentrated in lower paying job schedules while whites are disproportionately numerous in higher paying schedules. If this were the case, we would anticipate the estimated race effects to be substantially smaller within schedules than when the schedules are pooled. Clearly this did not occur. In both schedules D and E, the increase in standard error was a major factor in decreasing the statistical significance, and in Schedule E it was clearly the only factor, since the estimated race effect in Schedule E was greater than in the combined pool of five schedules.

17. In view of these observations, this case is clearly one in which some effort is indicated to combine the separate pieces of evidence of a pervasive policy into a single summary figure.

18. Using Fisher's Method, we may combine the significance level results from Schedules D and E in DX 201 to obtain a summary Chi-squared statistic of 9.437, which is significant at the .051 level.[13]

19. An alternative statistical approach to combining the evidence from the two schedules is based on the calculation of a weighted average of the estimated race effects in the two schedules.[14] The resulting average of $1,594.99 is 2.290 times as large as its estimated standard error, so that it is statistically significant approximately at the .025 level.[15]

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[13] The Chi-squared statistic has four degrees of freedom.

[14] Specifically we make the weights inversely proportional to the respective variances of the within schedule estimates. By doing so, we obtain an estimate which is maximally precise when, as claimed by the defendants, there is no discrimination in either schedule.

[15] This significance was computed on the assumption that the ratio is approximately normally distributed, an assumption which may be considered as valid as it is in many other applications in discrimination law.

20. Throughout the foregoing analysis, we have used two-tailed significance levels although I understand that plaintiffs urged that a one-tailed level was appropriate. In the absence of any stated policy of favoring blacks, it may be argued persuasively that in a case of this type, any single piece of evidence suggesting discrimination in favor of blacks would have been disregarded as a curiosity caused by chance in view of the general pattern of the evidence showing either adverse treatment of blacks or equal treatment. If so, it would be appropriate to use one-tailed significance levels, in which case the race effects estimated within each schedule would have been significant at the .0818 level in Schedule D and the 0.0273 level in Schedule E.[16] Using Fisher's Method to combine these results would have produced a Chi-squared statistic of 12.208 which is statistically significant at the .016 level. Finally, the weighted average race effect would be significant at a level of less than 0.015.

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[16] The estimated rate effects produced in the last step of DX 202 for the combined Schedules D and E would also have been significant at the 0.0453 level using one-tailed significance levels.

21. In summary, these observations taken together suggest that the results of the defendants' separate analyses of Schedules D and E tend to support conclusions not substantially different from those drawn from the plaintiffs' analysis of the pooled schedules, at least to the degree that the pooled analysis indicates the presence of disparate treatment in Schedules D and E.

/s/ DAVID C. BALDUS

David C. Baldus

Sworn to before me this
16th day of May 1983.

/s/ CAROL S. WILLIAMS

Notary Public

CAROL S. WILLIAMS
Notary Public in the State of New York
Qualified in Onondaga Co. No. 4734981
My Commission Expires March 30, 1985

/s/ JAMES W. L. COLE

James W. L. Cole

Sworn to before me this
13th day of May 1983.

/s/ MARY ALICE McCAFFERTY

Notary Public

MARY ALICE McCAFFERTY, Notary Public
Shaler Township, Allegheny County
My Commission Expires Dec. 27, 1986
Member, Pennsylvania Association of Notaries

APPENDIX H

AFFIDAVIT OF
PROFESSORS MICHAEL O. FINKELSTEIN
AND
BRUCE LEVIN

APPENDIX H

UNITED STATES COURT OF APPEALS
FOR THE ELEVENTH CIRCUIT

FRANK L. EASTLAND, et al.,

Plaintiffs-Appellants,

—against—

TENNESSEE VALLEY AUTHORITY, et al.,

Defendants-Appellees.

No. 82-7008
AFFIDAVIT

STATE OF NEW YORK,
COUNTY OF NEW YORK, } ss.:

MICHAEL O. FINKELSTEIN and BRUCE LEVIN, being severally duly sworn, do depose and say:

1. Michael O. Finkelstein is a member of the bar of New York and a member of the firm of Barrett Smith Schapiro Simon & Armstrong. He specializes in statistical presentations in legal cases. He is Chairman of the Special Committee on the Use of Empirical Data in Legal Decisionmaking of the Association of the Bar of the City of New York. For many years he has taught a course entitled Statistics for Lawyers at Columbia Law School and has published numerous articles and one book in this field. In particular, he is the author of *The Judicial Reception of Multiple Regression Studies in Race and Sex Discrimination Cases,* 80 Colum. L. Rev. 737 (1980) that appeared as a companion piece to the article by Professor Franklin M. Fisher that was cited by the Panel in this case.

2. Dr. Bruce Levin is Assistant Professor of Clinical Public Health in Biostatistics, Columbia University School of Public Health in New York City. He is a member of Statistica Consulting, Inc., a firm that specializes in providing expert statistical analysis in legal cases and has testified frequently as an expert statistician. He is the author of a mumber of publications on statistics, the most recent being on a problem in the use of statistics in discrimination cases. See Robbins & Levin, *A Note on the "Underadjustment Phenomenon"*, 1 Statistics & Probability Letters 137 (1983).

3. We have been asked by counsel for the appellants to review the Panel's opinion, the District Court's opinion, the briefs, the multiple regression analyses offered by both parties and the trial testimony about them. We conclude that even if the Panel is correct as a theoretical matter that job categories must be taken into account in performing multiple regression analyses in a case such as this (a proposition that is open to serious question since it introduces a variable, assignment to job category, that itself is alleged to be the subject of discrimination), the analyses presented by the TVA, which took job categories into consideration, show clearly that race is a significant factor on at least one of two job schedules, D and E.

4. TVA presented regression studies for separate job schedules (DX 201) and a regression study combining Schedules D and E (DX 202). In both Schedules D and E, and in the combined Schedule D and E, the race coefficients in the regressions were negative. That means that on each schedule comparably qualified blacks earned less than whites. The SAS computer program used to produce the regressions automatically printed out probability levels (descriptive levels of significance) on a two-tail basis; this is twice the size of the probability level on a one-tail basis. Which basis is appropriate depends on whether one is equally concerned with both discrimination for blacks and discrimination against them. Since this case alleges discrimination against blacks, the one-tailed basis is the appropriate one, and the probability levels in

the printouts must be divided by two in order to put them on a one-tail basis. On that basis, the race coefficient in the Schedule D regression is close to statistical significance (0.0818), the race coefficient in the Schedule E regression is of substantial significance (.0273), and the race coefficient for the combined Schedule is also significant (.0453) assuming, as the Panel does, that .05 is the critical level of significance.

5. The number of blacks included in Schedules D and E together is small from a statistical point of view (PX 511 at p. 12 shows that there were only 7 blacks on Schedule E, and 14 on Schedule D, at the end of 1979, some months before the data reflected in TVA's regression). This raises the possibility that discrimination exists but would not be found statistically significant due to the low power of the method of analysis to detect discrimination when there are such small numbers. The problem is compounded when the numbers of blacks are further reduced by dividing the data into separate schedules; any real difference can be made to lack statistical significance if the data are divided into a sufficient number of small groups. On the other hand, if the Court adheres to its view that job schedules should be analyzed separately, the true level of statistical significance for both the Schedule D regression and the Schedule E regression would have to be calculated by looking simultaneously at the evidence from the two regressions rather than by pooling the data. That can easily be done from the data already in the record, and when it is done, the result shows that race is a statistically significant factor. In the remainder of this affidavit, we show the method and the results of such a computation.

6. Since separate groups of employees were involved in the D and E schedules, the two regression studies are independent in the statistical sense. A basic technique for combining results from independent studies is due to R. A. Fisher, the founder of modern statistics, and is described in his classic work, *Statistical Methods for Research Workers*, 99-101 (11th Ed., London Oliver & Boyd, 1950). A further discussion may

be found in R. Rosenthal, *Combining Results of Independent Studies*, 85 Psychological Bulletin, 185-93 (Jan. 1950).

7. To explain Fisher's technique, we begin by noting that the descriptive level of significance for a single race coefficient is the probability that, under the hypothesis that race was not a factor in salary, the race coefficient in the regression would indicate a shortfall for blacks as large or larger than that actually observed in the sample. Since two independent regressions are involved, the probability that race coefficients in both studies would be found as large or larger than that observed for each Schedule is the product of the two descriptive levels of significance. The product may be termed the "joint descriptive level of significance". The smaller that number, the more statistical evidence there is that at least one of the race coefficients is different from zero.

8. In accordance with general statistical techniques of hypothesis testing, we ask the following: if the true race coefficient is in fact zero in both Schedules, what is the probability that the joint descriptive level of significance would be as small or smaller than that observed in the sample? The answer is calculated by computing the natural logarithm of the joint descriptive level of significance multipled by –2. This is a useful test statistic because it has a well-known (chi-squared) probability distribution so that the probability that it will exceed any given value can be obtained from standard tables of the chi-square distribution found in most elementary statistics texts. If this probability is less than the critical level of significance, the hypothesis that race was not a factor in either Schedule must be rejected.

9. As we noted above, the descriptive level of significance of the race coefficient is shown on a two-tail basis as 0.1635 for Schedule D and for Schedule E as 0.0546. Since we believe that a one-tail test is appropriate, each of these significance levels is divided by two to obtain the one-tail significance levels of .0818 and .0273, respectively.

10. Fisher's statistic is then equal to $-2 \ln (.0818 \times .0273) = 12.21$. From tables of the chi-squared distribution (in this case on 4 degrees of freedom) one finds the probability of observing a joint descriptive level of significance this extreme under the hypothesis that race was not a factor in either Schedule is .016 on a one-tail basis. Thus the joint descriptive level of significance which represents the combined impact of the evidence of both Schedules is stronger than defendant has computed by separating the Schedules and failing properly to combine the evidence. If .05 is accepted as the critical level of significance, we must reject the hypothesis that race was not an influence on salary in either Schedule.

11. Another method of combining the evidence across the two Schedules is to consider the average of the race coefficients. Assuming that the true race coefficient is equal to zero in each case, the expected average is also zero. To test whether the true average is zero, we divide the observed average by its standard error and obtain the so-called z-score, which is the number of standard deviations between the observed and expected averages. The method of standard deviation analysis used here is similar to that approved by the Supreme Court for analyzing claims of discrimination in *Castaneda v. Partida,* 430 U.S. 482, 496 n. 17 (1977).

12. Here, DX 201 shows that the race coefficient of the D Schedule is $1221.56 (changing signs for convenience) with a standard error of $871.82 (p. 5, Step 6) while the race coefficient for the E Schedule is $2254.28 with a standard error of $1158.40 (p. 8, Step 5). The average is $1737.92 with a standard error of $724.91. The z-score is thus $1737.92/724.91 = 2.40$, which is significant at the one-tail .0082 level, and also significant at the two-tail .0164 level. If .05 is accepted as the

critical level of significance, we must reject the hypothesis that the average of the race coefficients in the two schedules is zero.

/s/ MICHAEL O. FINKELSTEIN
Michael O. Finkelstein

Sworn to before me this
16th day of May 1983.

/s/ DORA LEE EDWARDS
Notary Public

DORA LEE EDWARDS
Notary Public, State of New York
No. 24-4504159
Qualified in Kings County
Term Expires March 30, 1985

/s/ BRUCE LEVIN
Bruce Levin

Sworn to before me this
16th day of May 1983.

/s/ ROBERT W. BEAURY
Notary Public

ROBERT W. BEAURY
Notary Public, State of New York
No. 41-4725819
Qualified in Queens County
Certificate Filed in New York County
Commission Expires March 30, 1984